

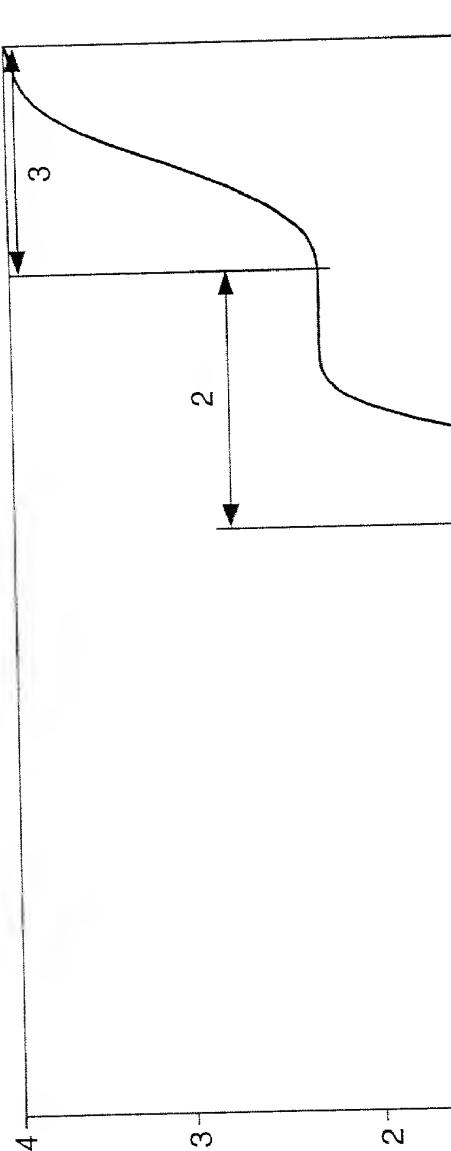
FIG. 1

T (°C)

500  
400  
300  
200  
100  
0

1  
0

Yield (BOE/ton)



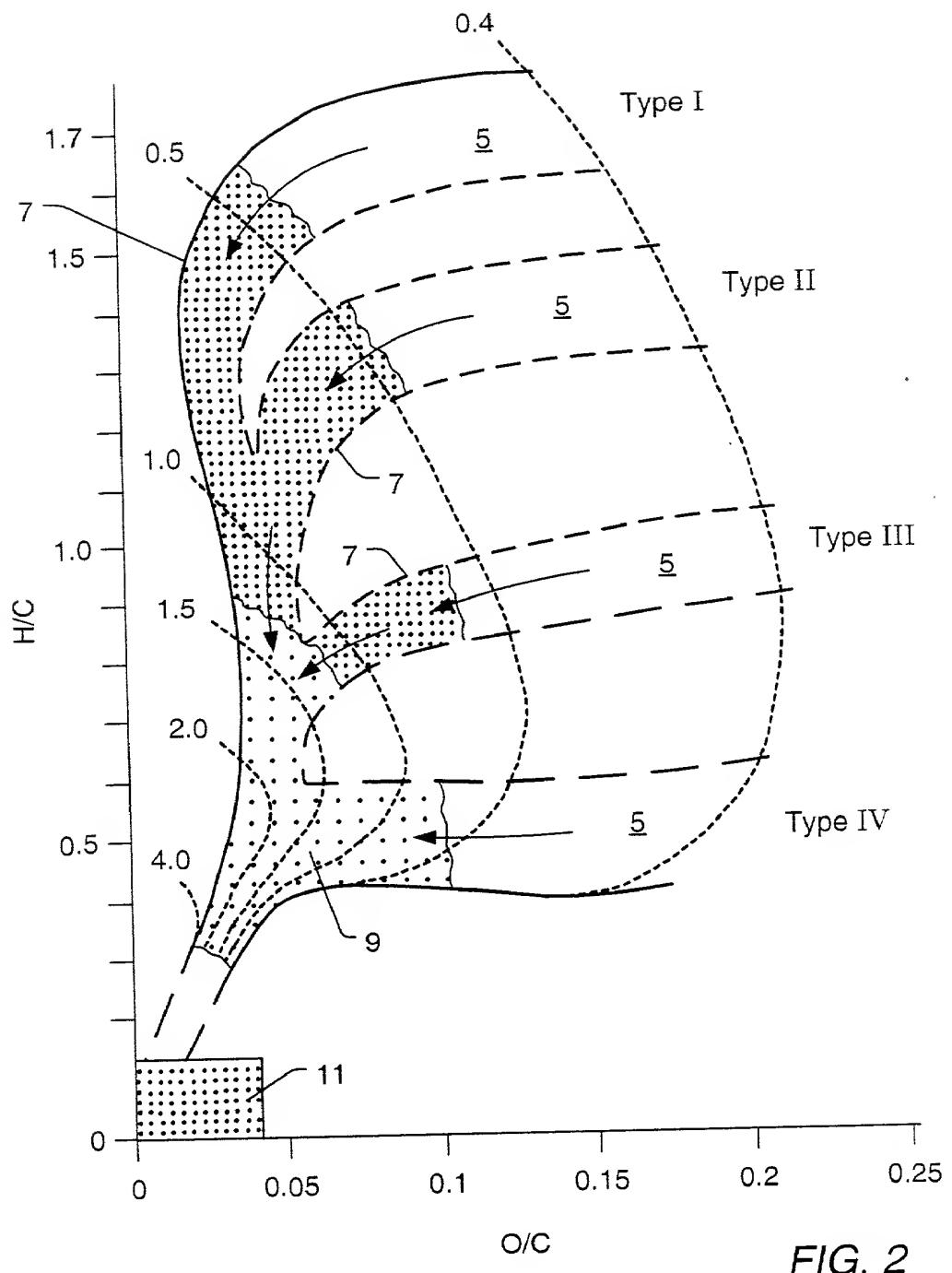


FIG. 2

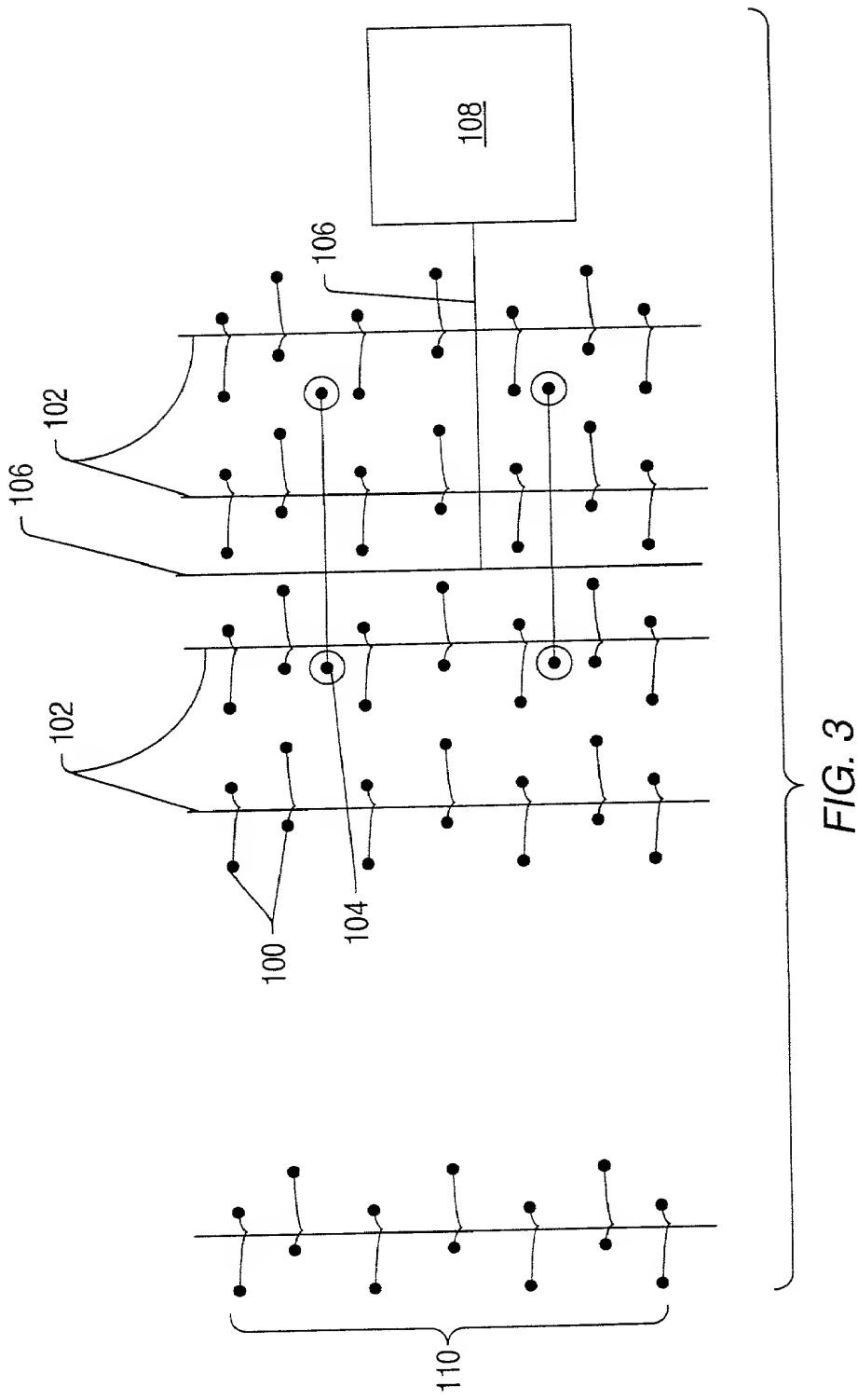


FIG. 3

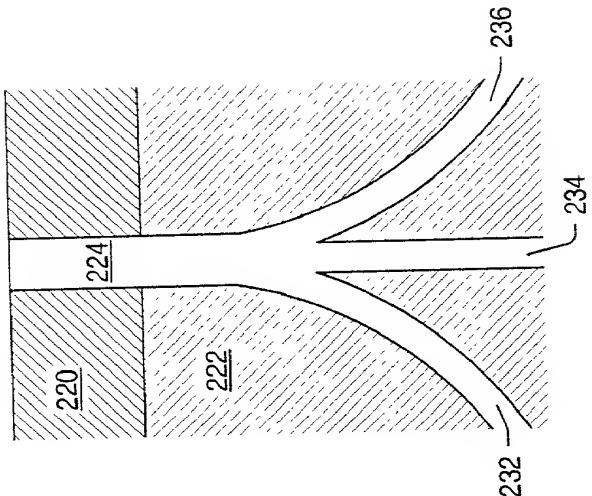


FIG. 3C

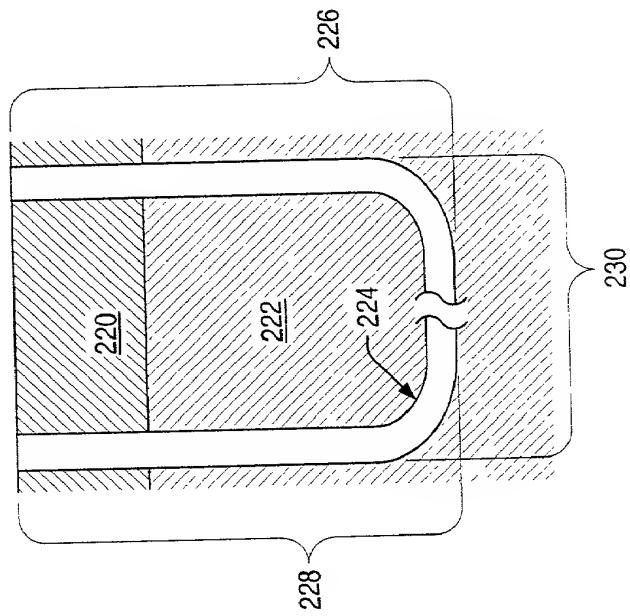


FIG. 3b

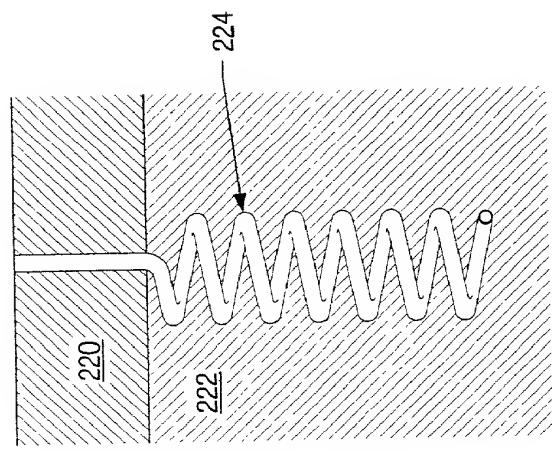


FIG. 3a

FIG. 4

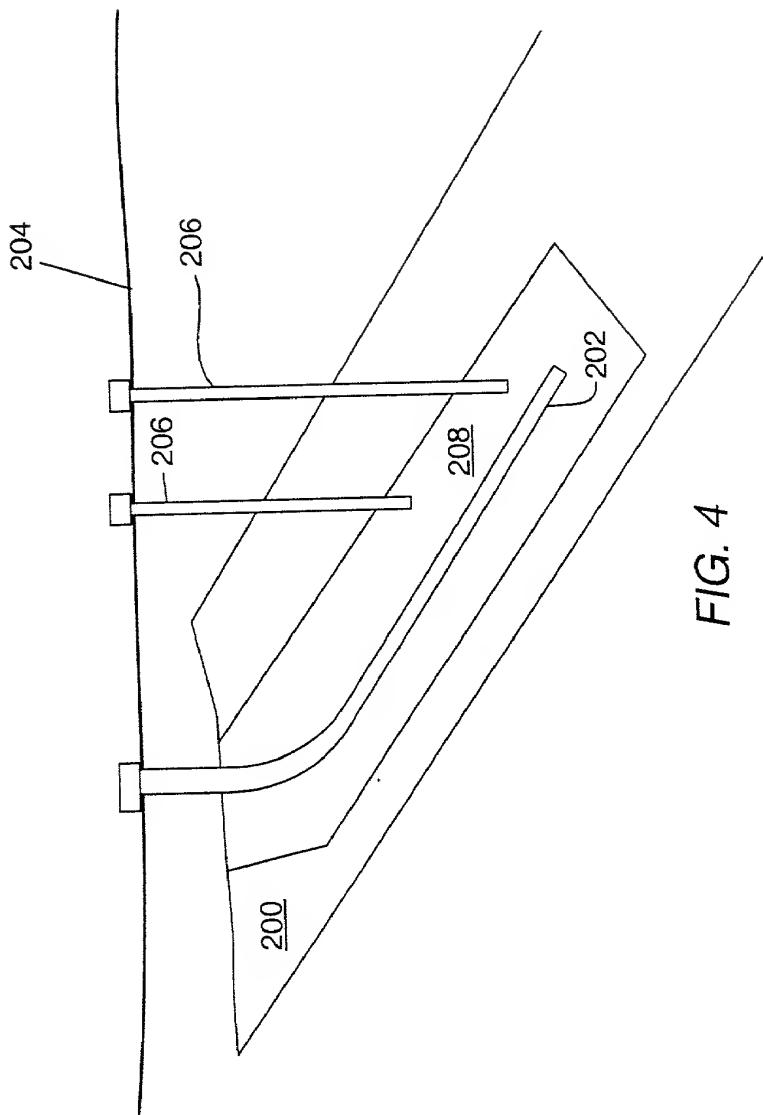
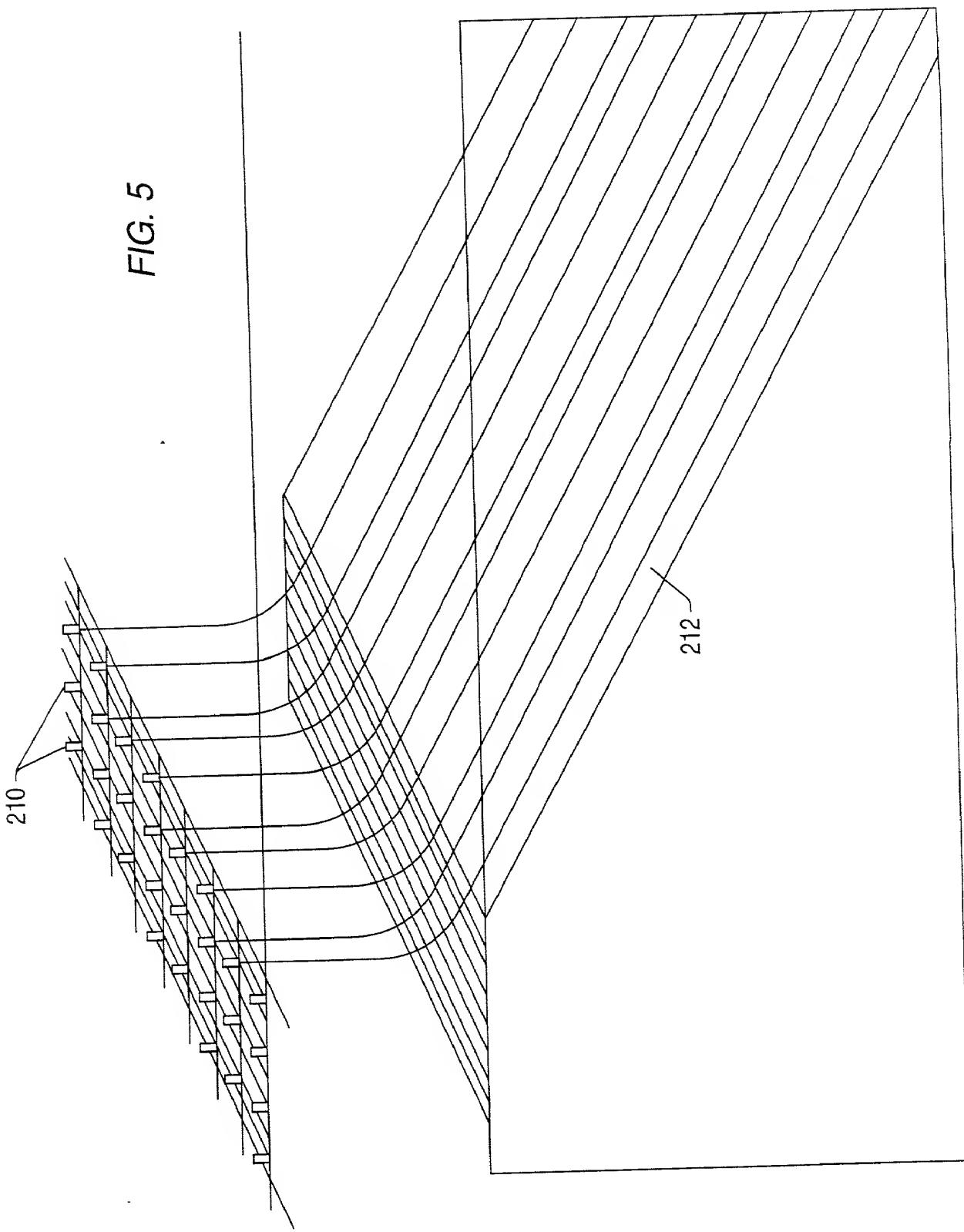
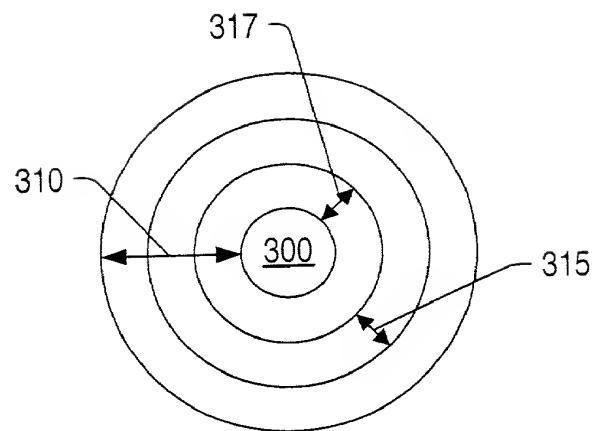
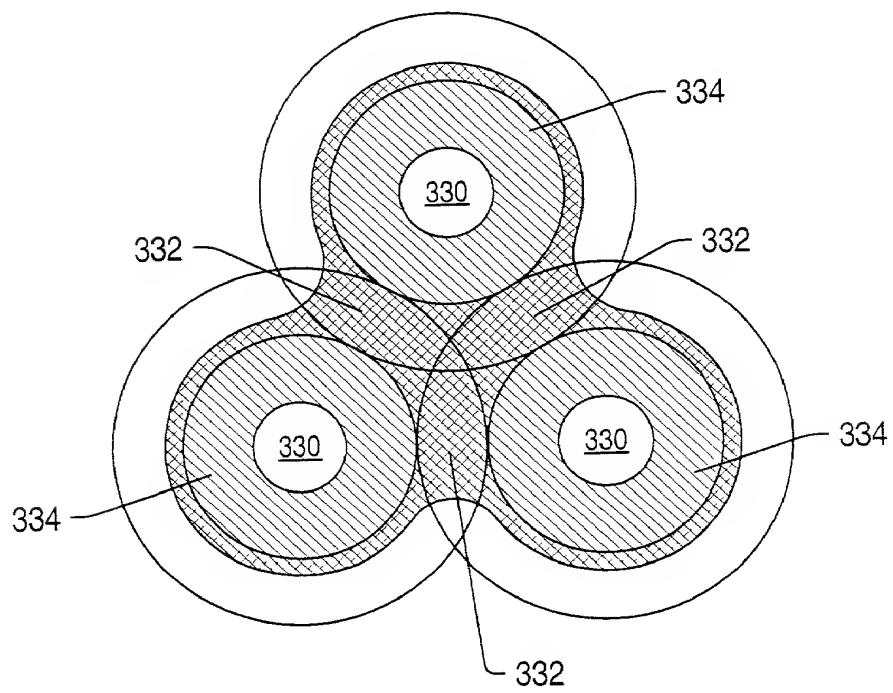


FIG. 5





*FIG. 6*



*FIG. 7*

FIG. 8

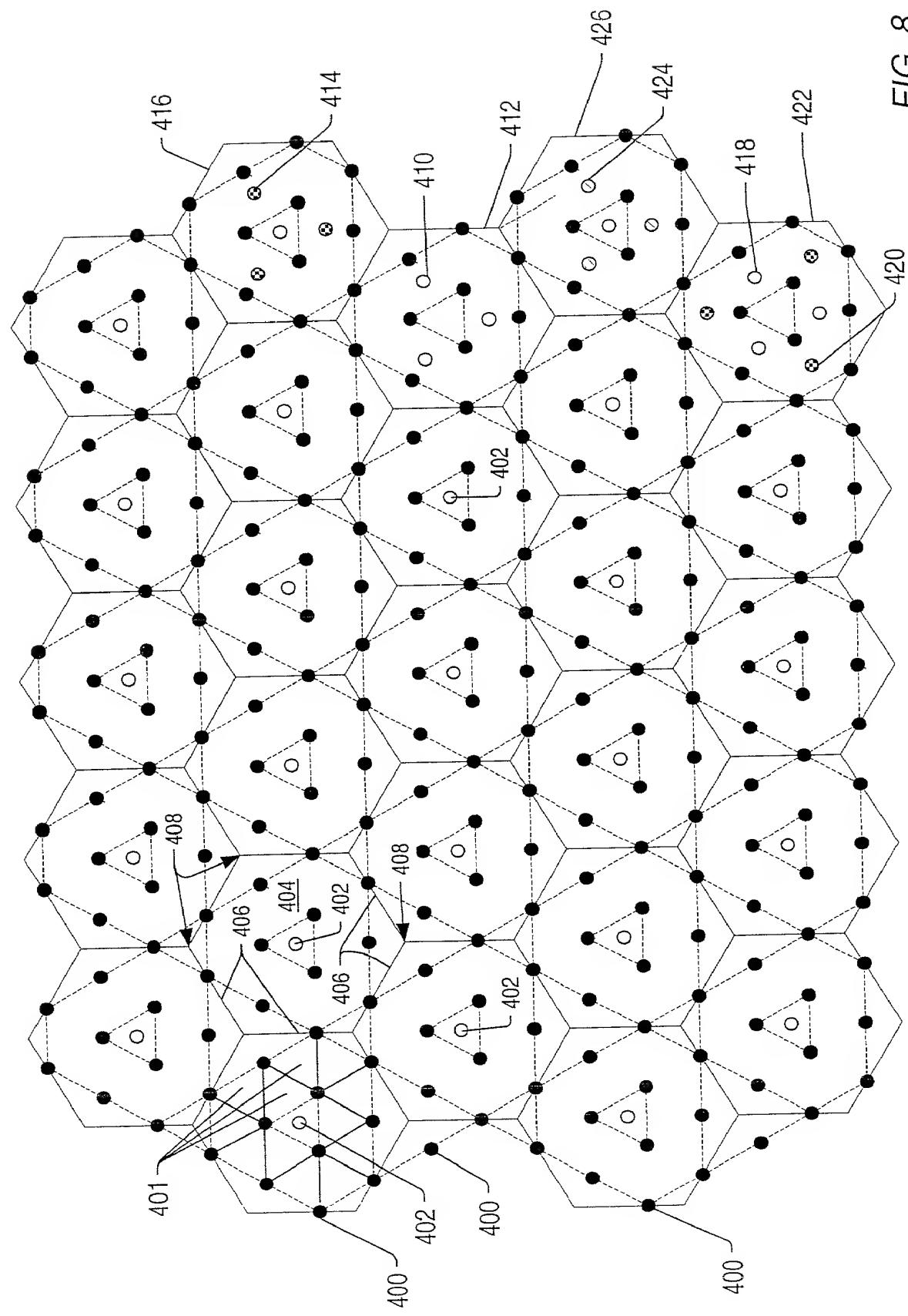
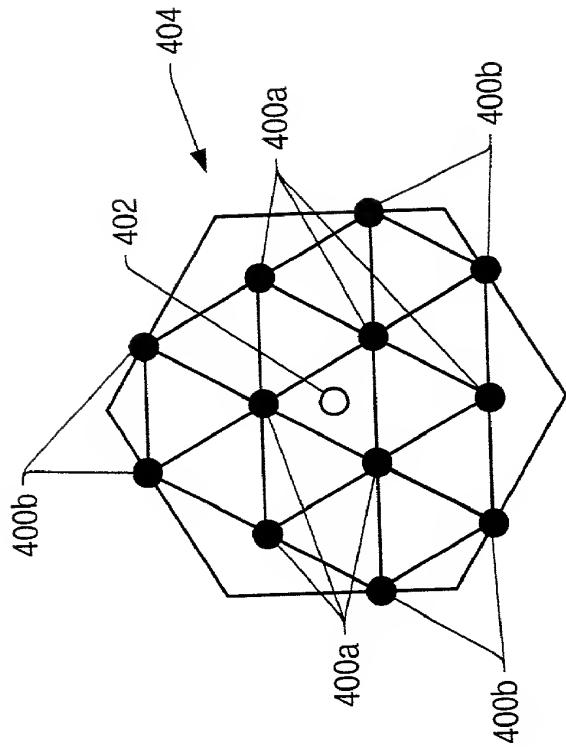


FIG. 9



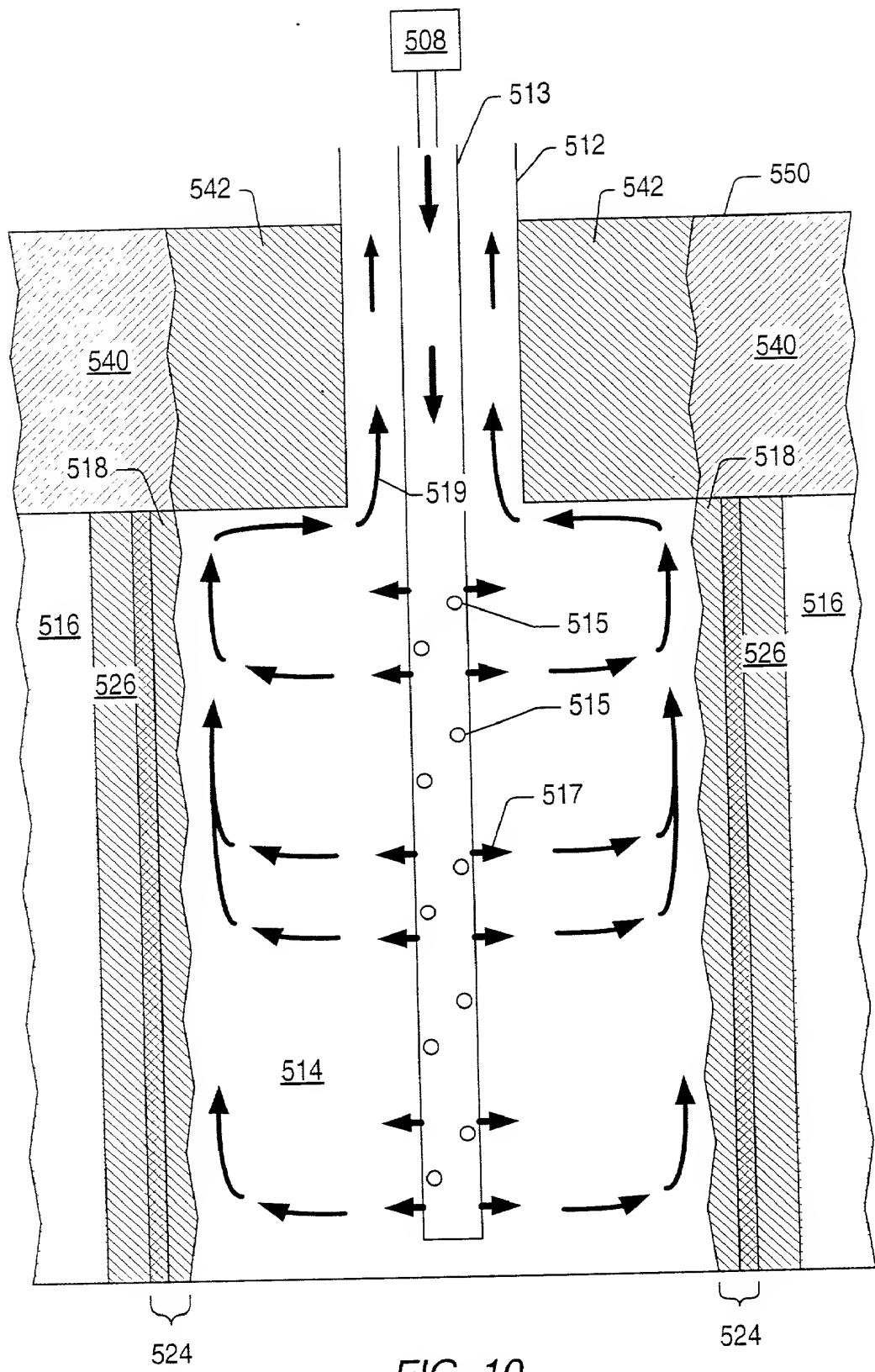
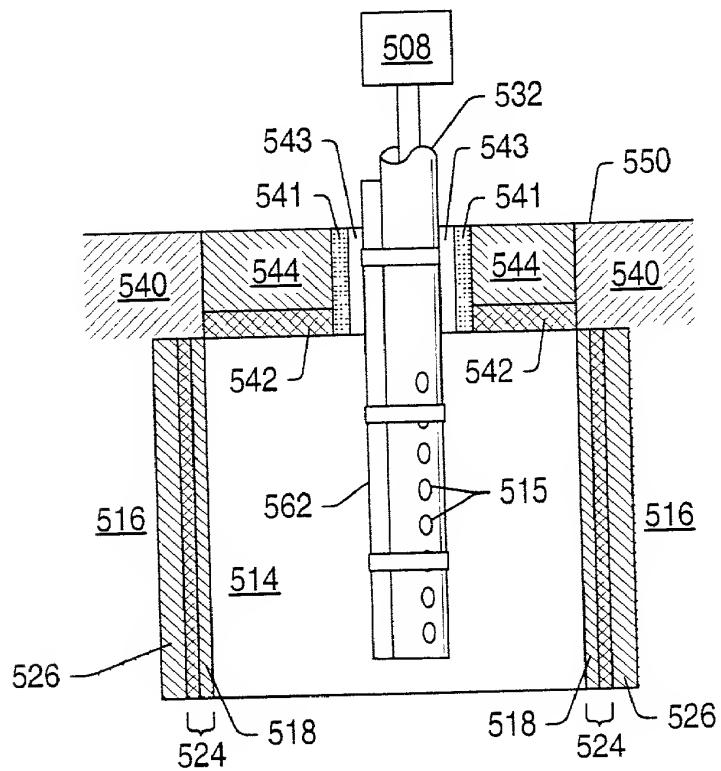
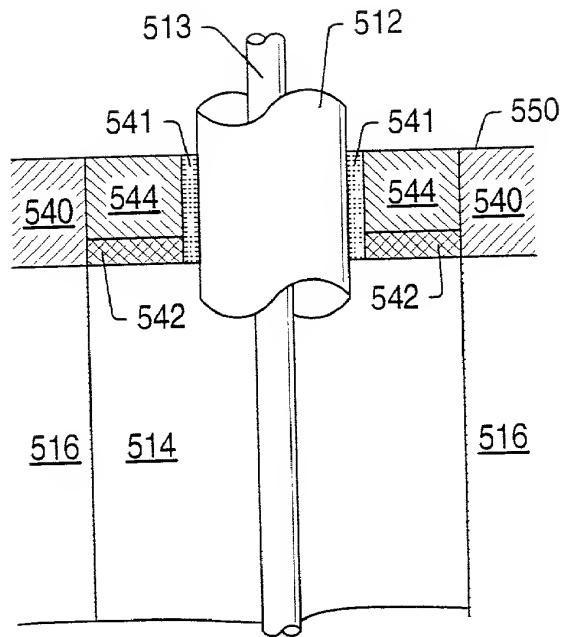


FIG. 10



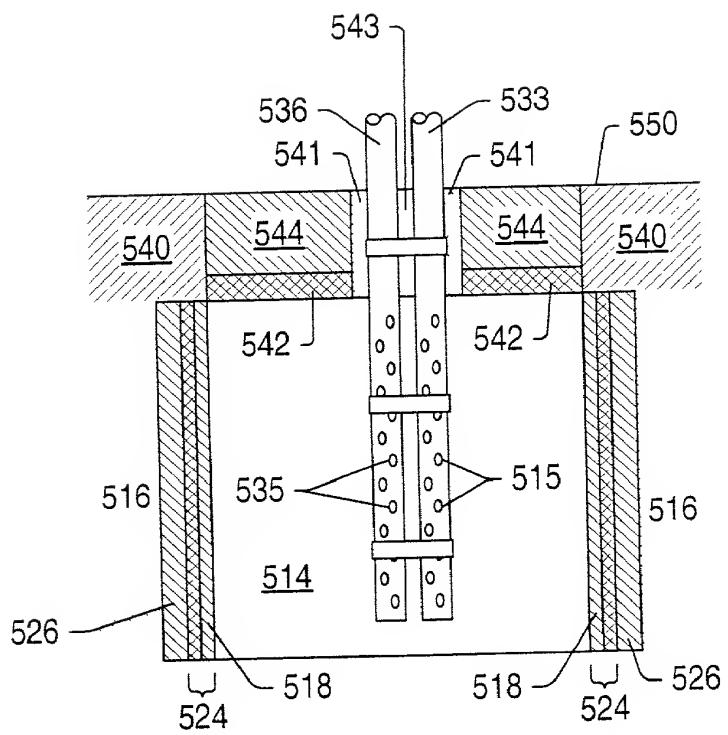


Fig. 13

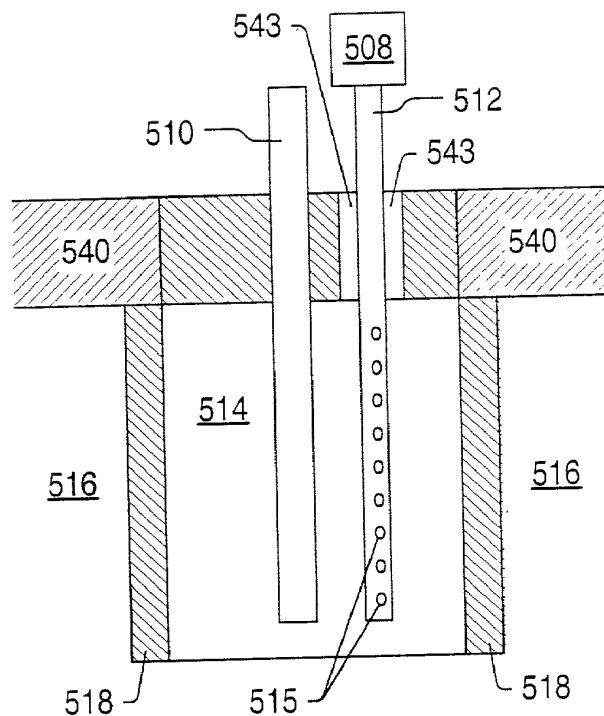


FIG. 14

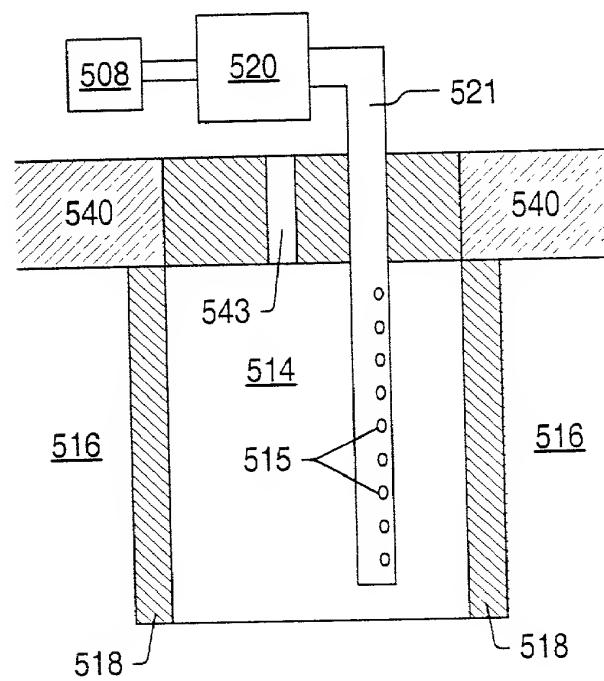


FIG. 15

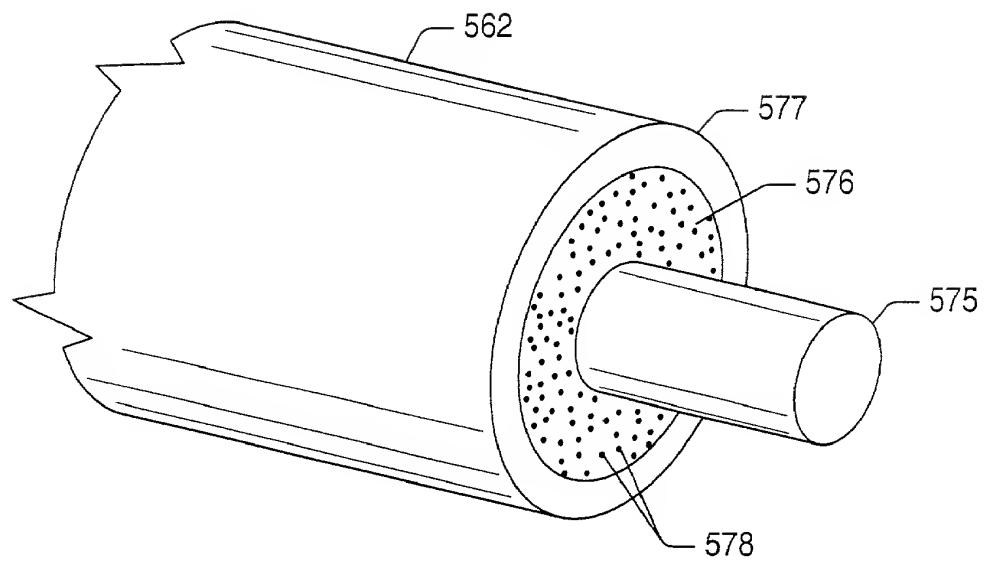


FIG. 16

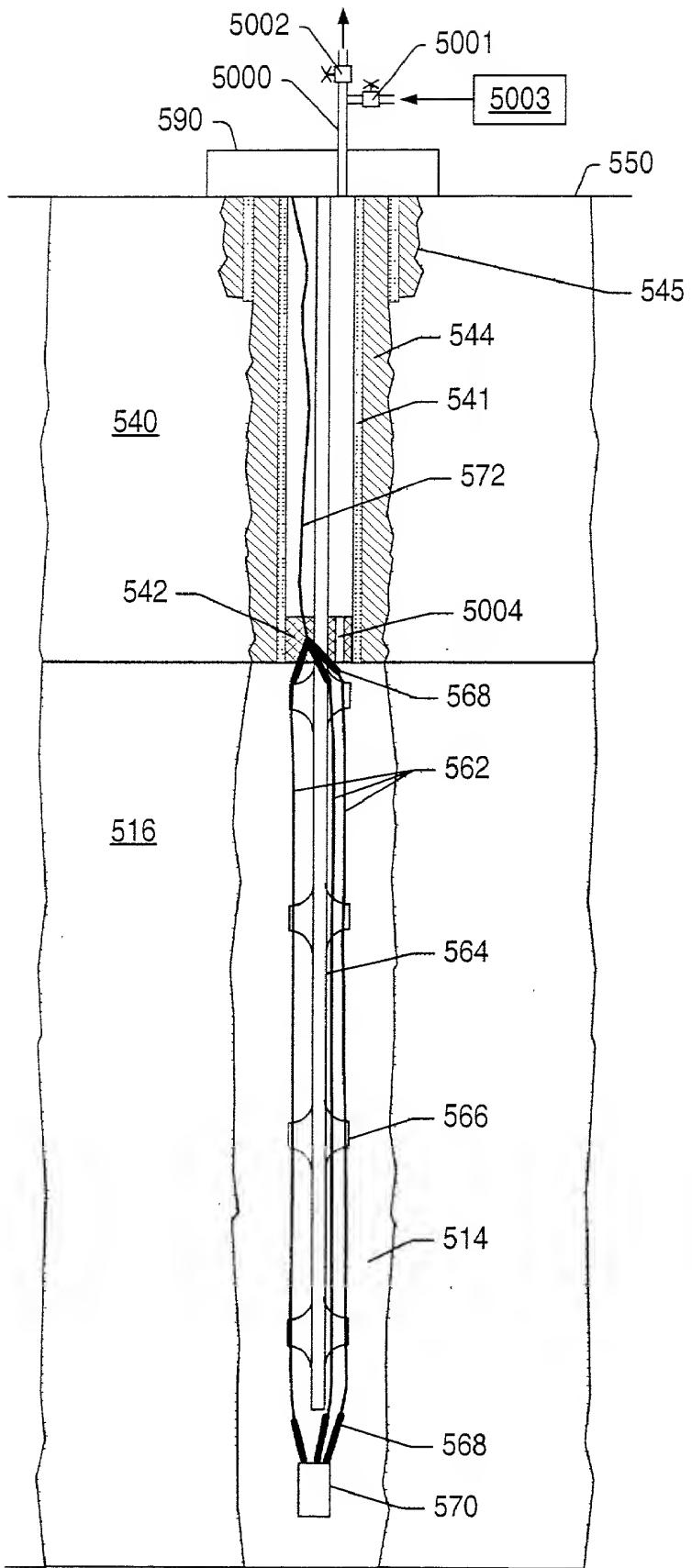


FIG. 17

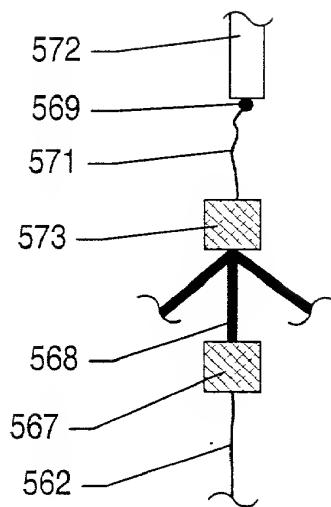


FIG. 17A

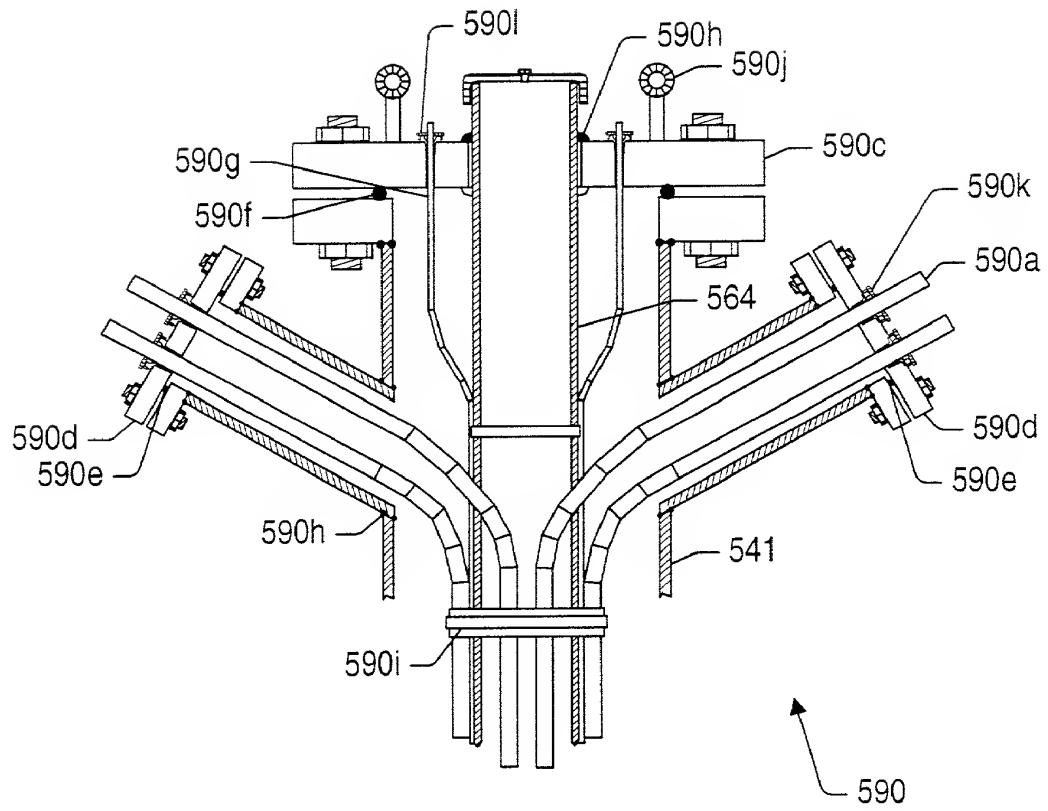


FIG. 18

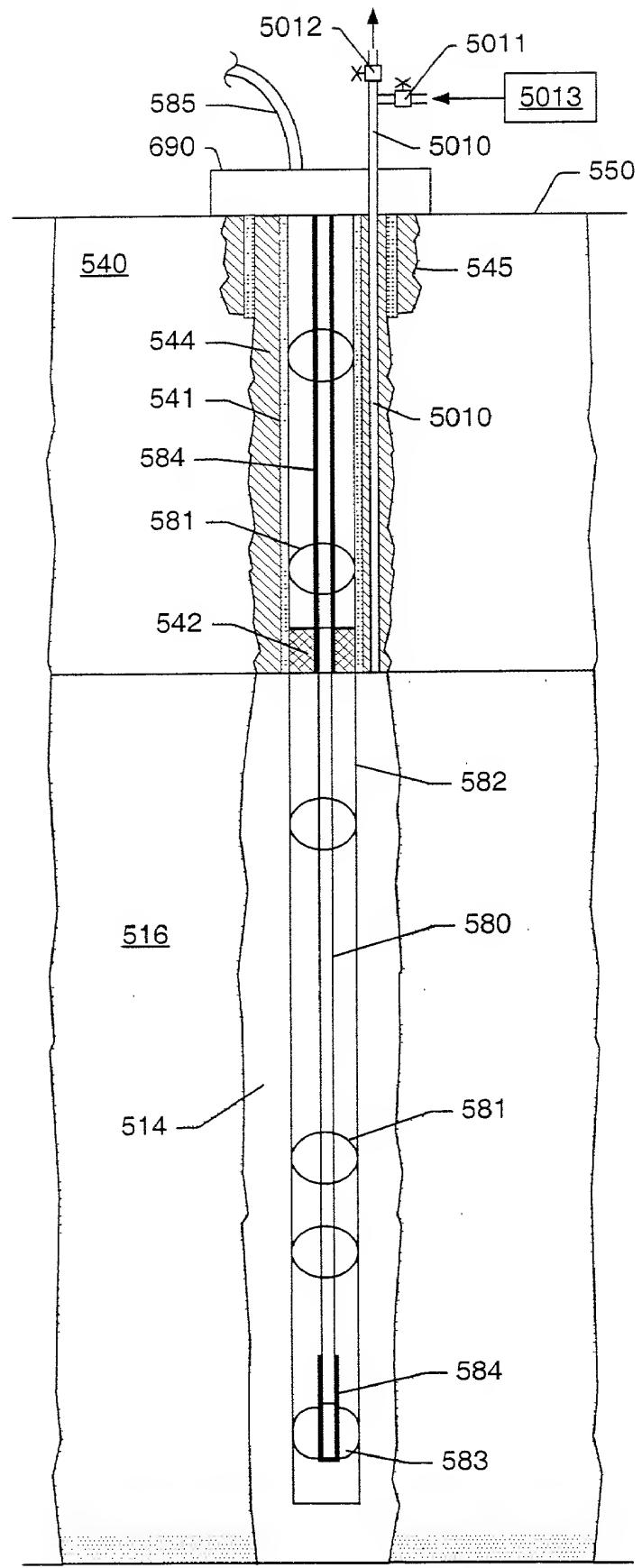


FIG. 19

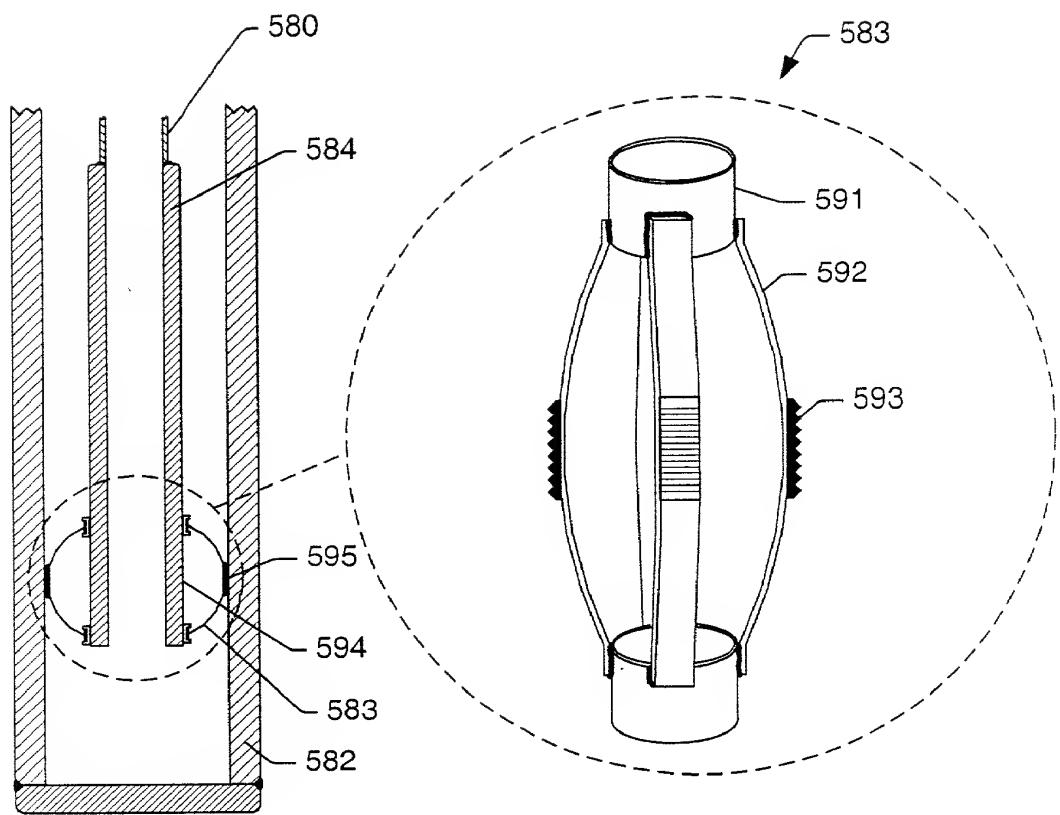


FIG. 20

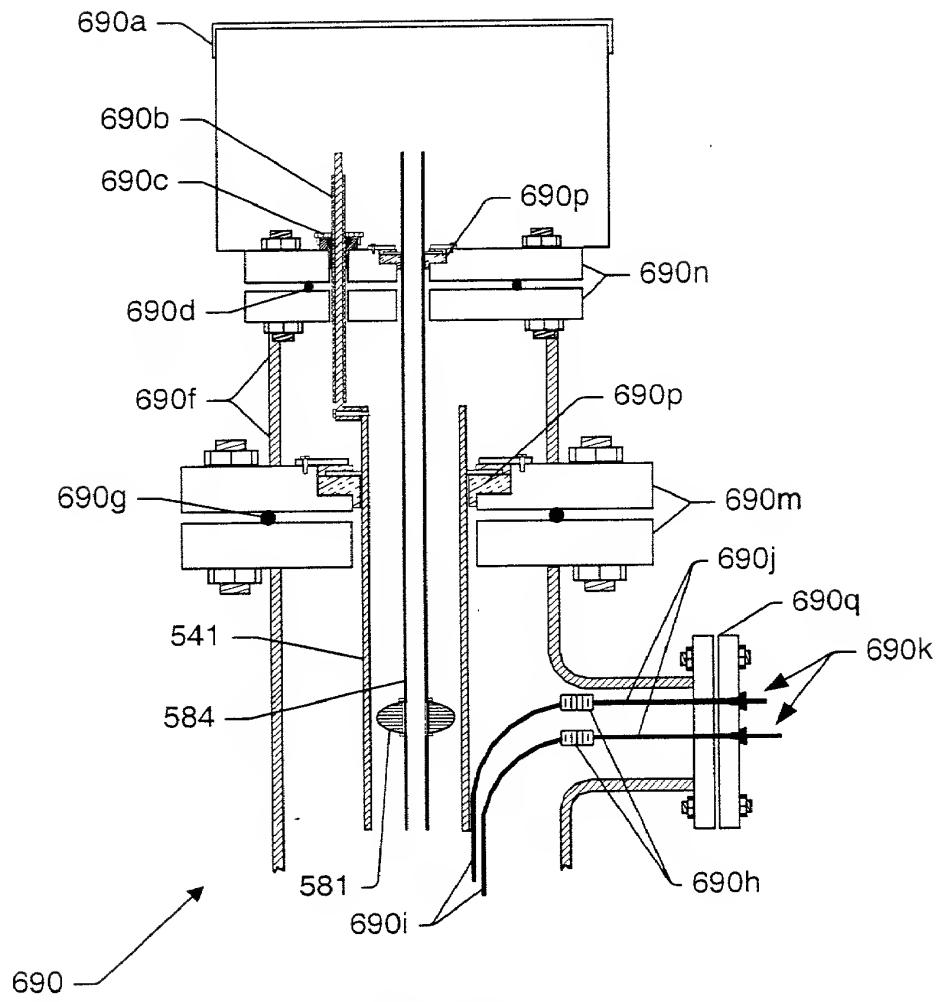
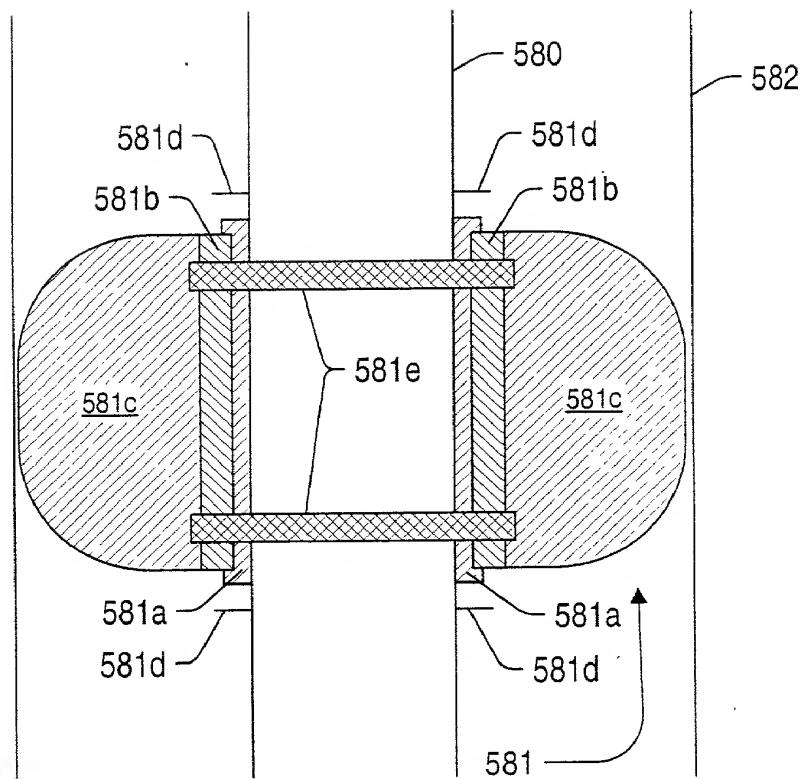
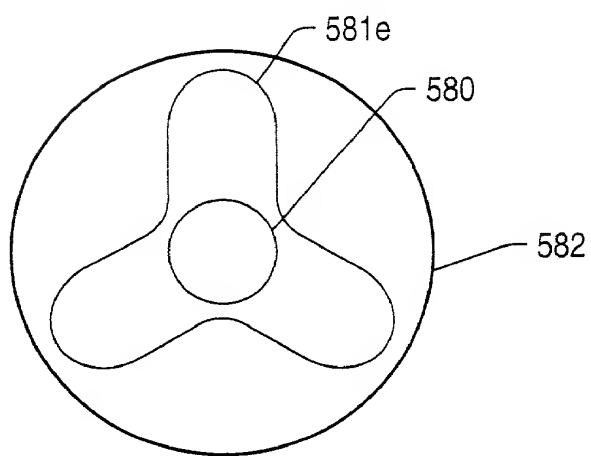
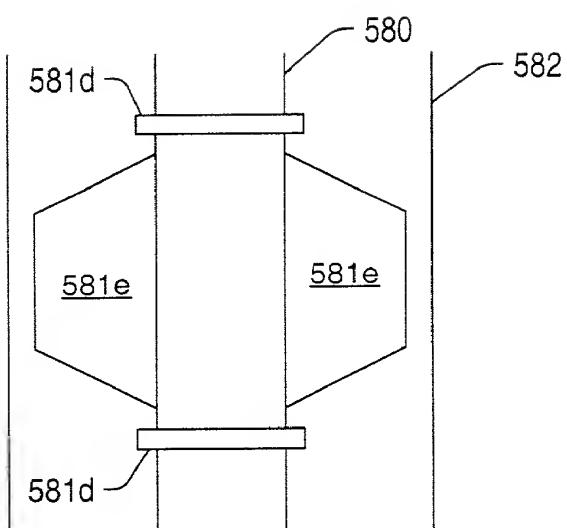


FIG. 21



*FIG. 22*



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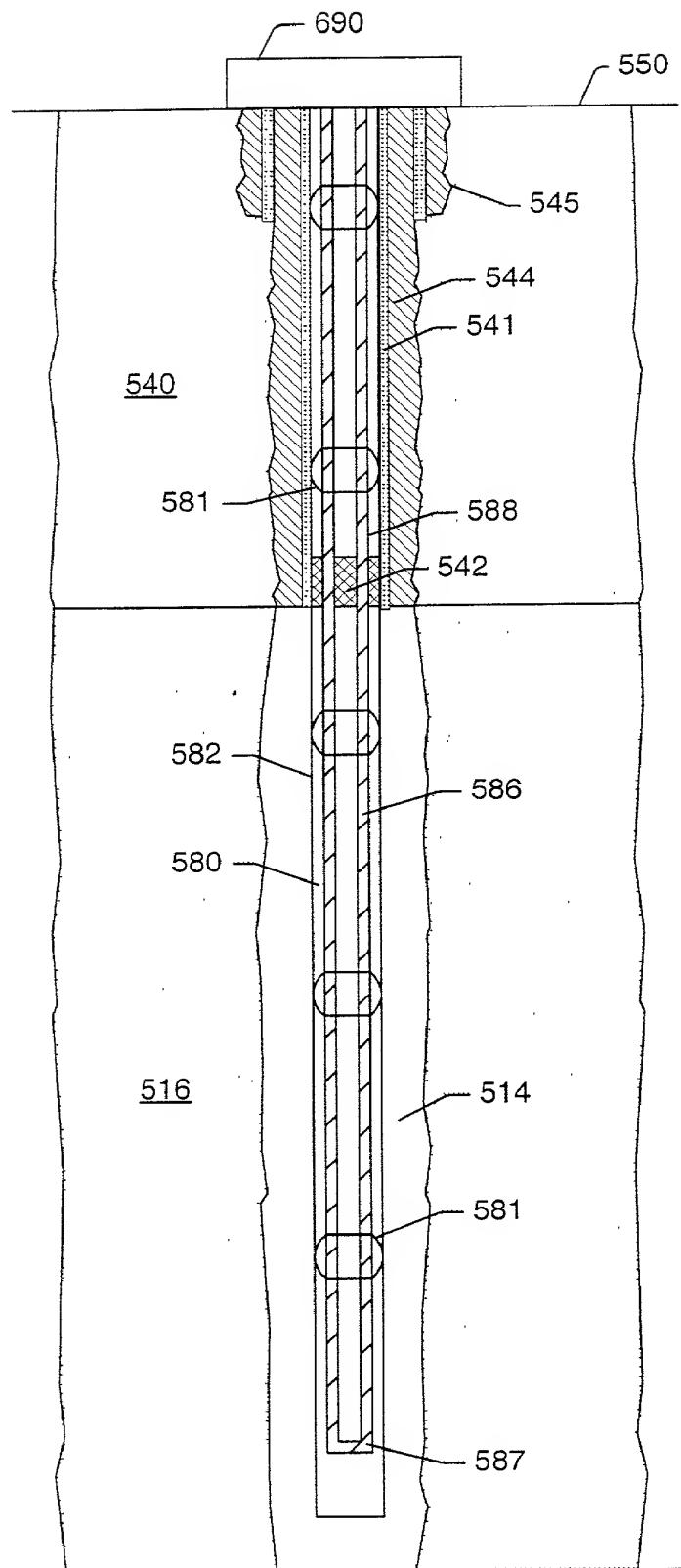


Fig. 24

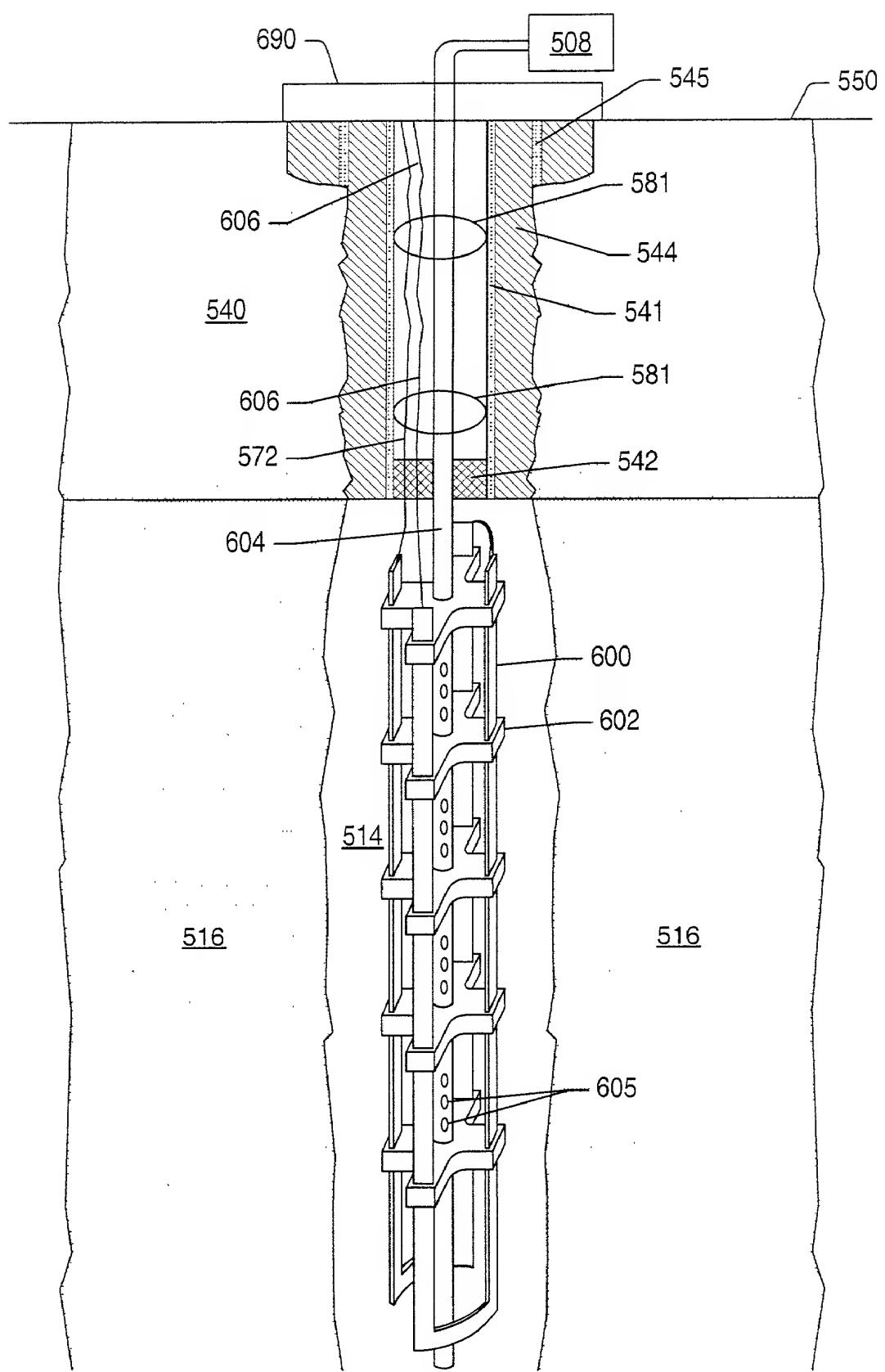
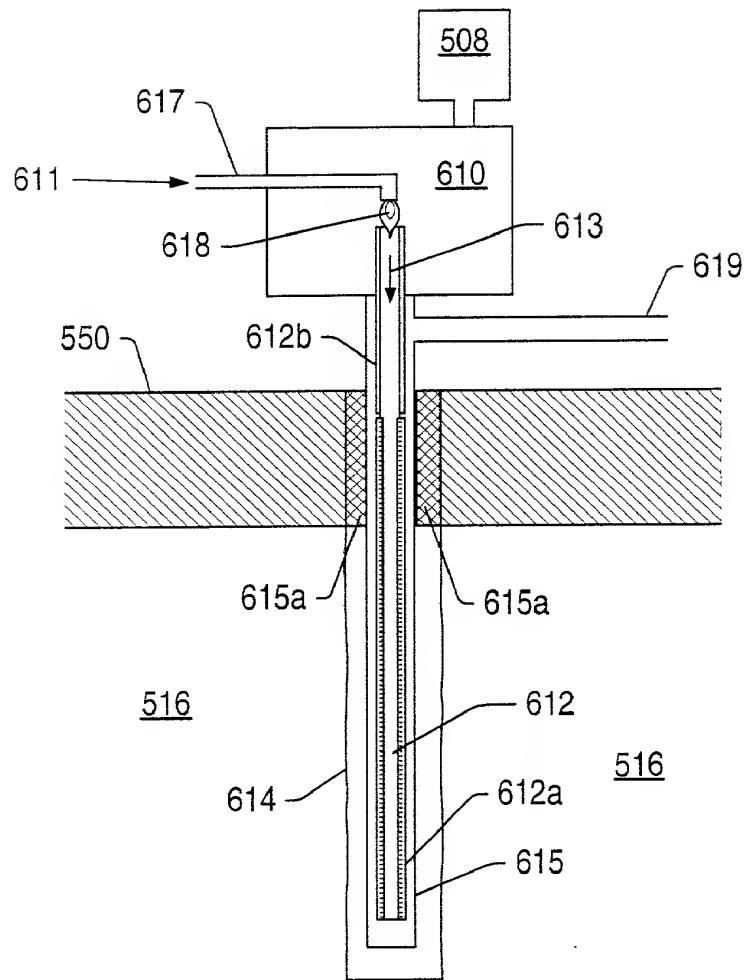
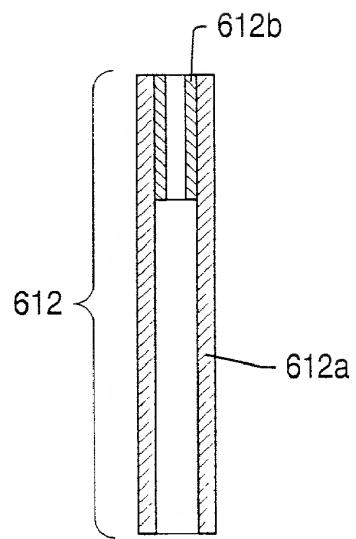


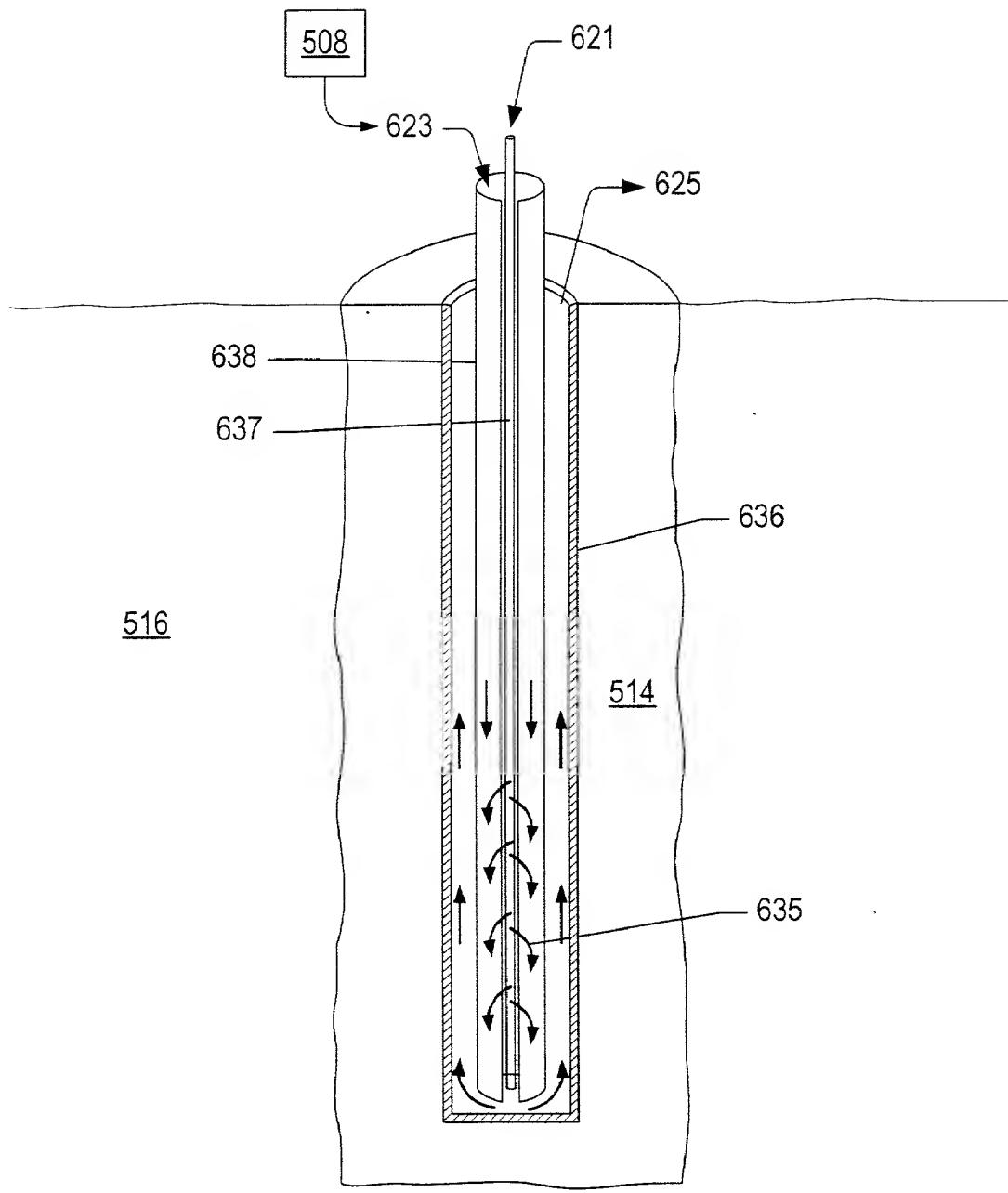
FIG. 25



*FIG. 26*



*FIG. 27*



*FIG. 28*

FIG. 29

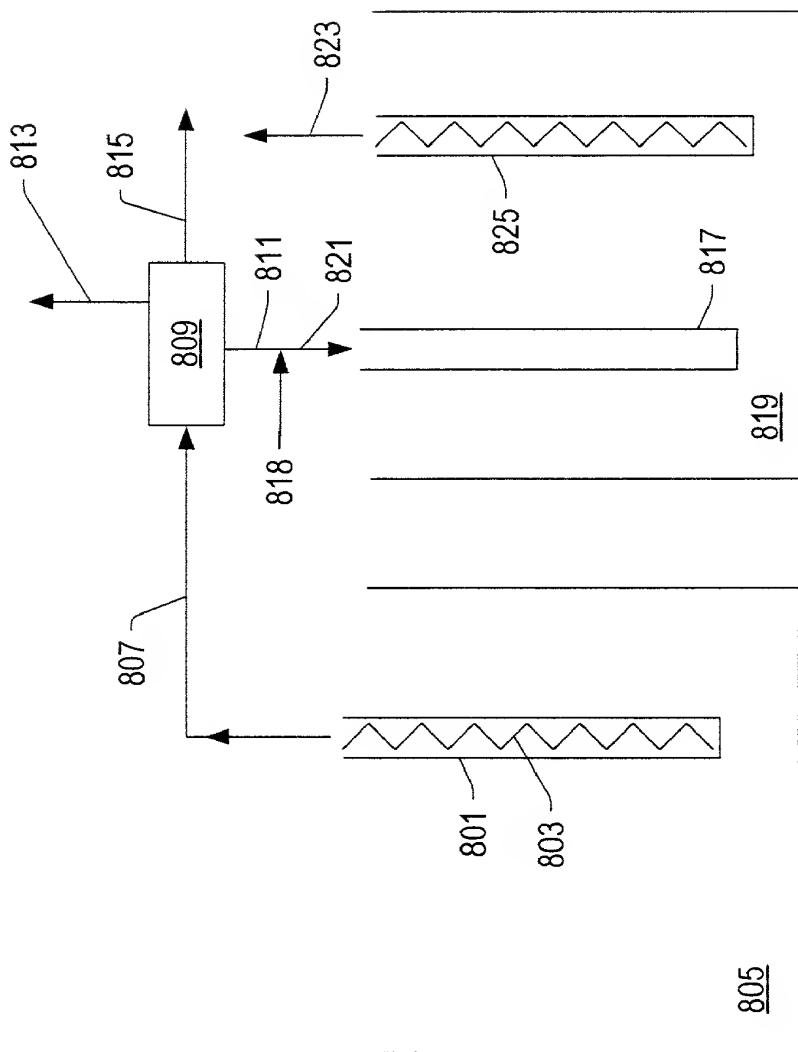
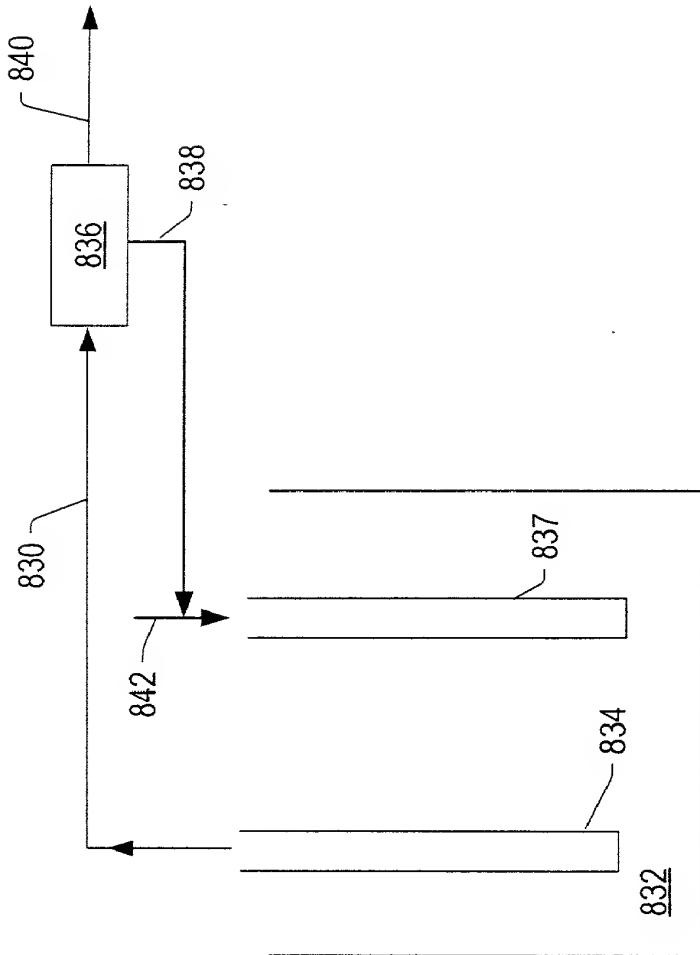


FIG. 29

FIG. 30.



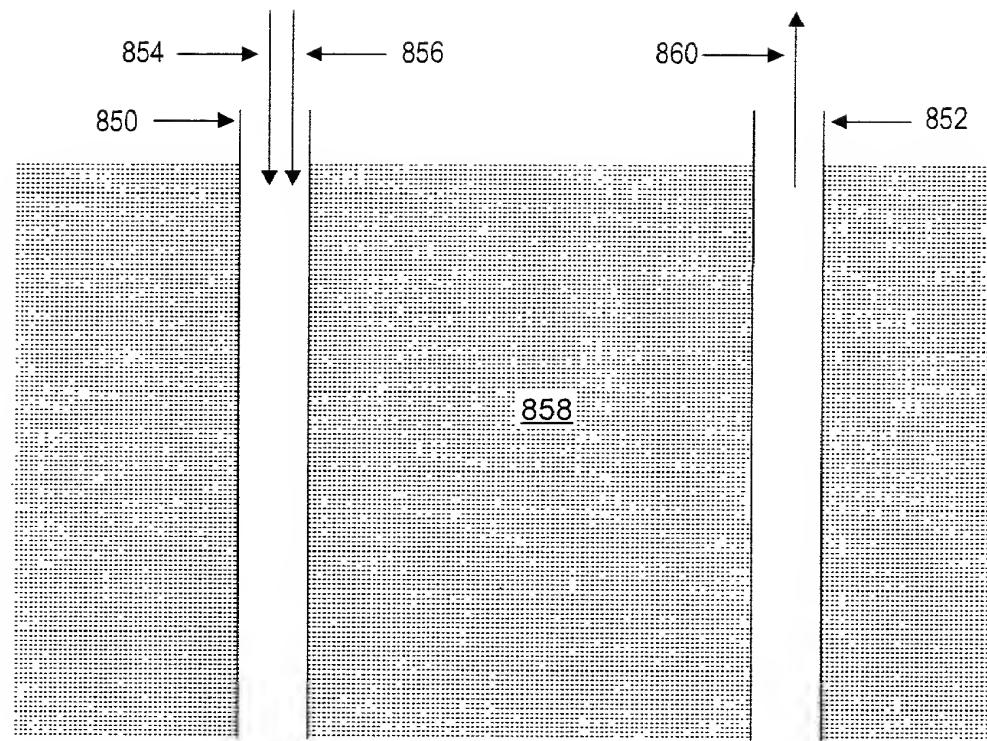


FIG. 31

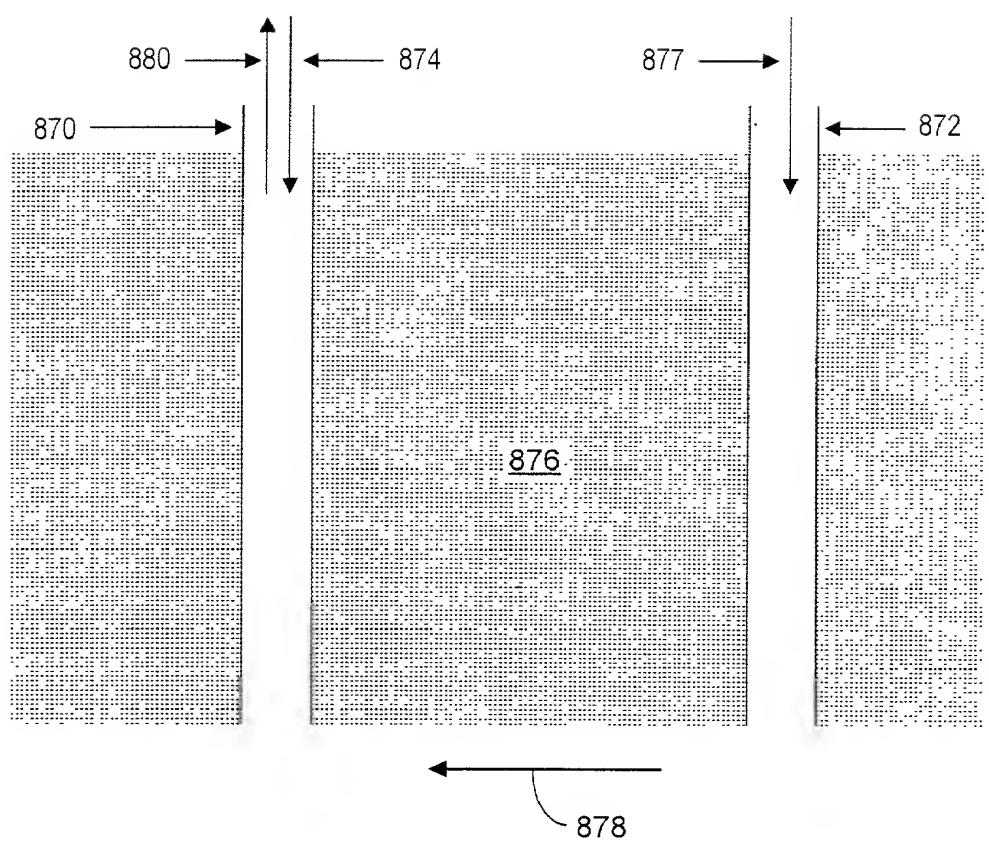


FIG. 32

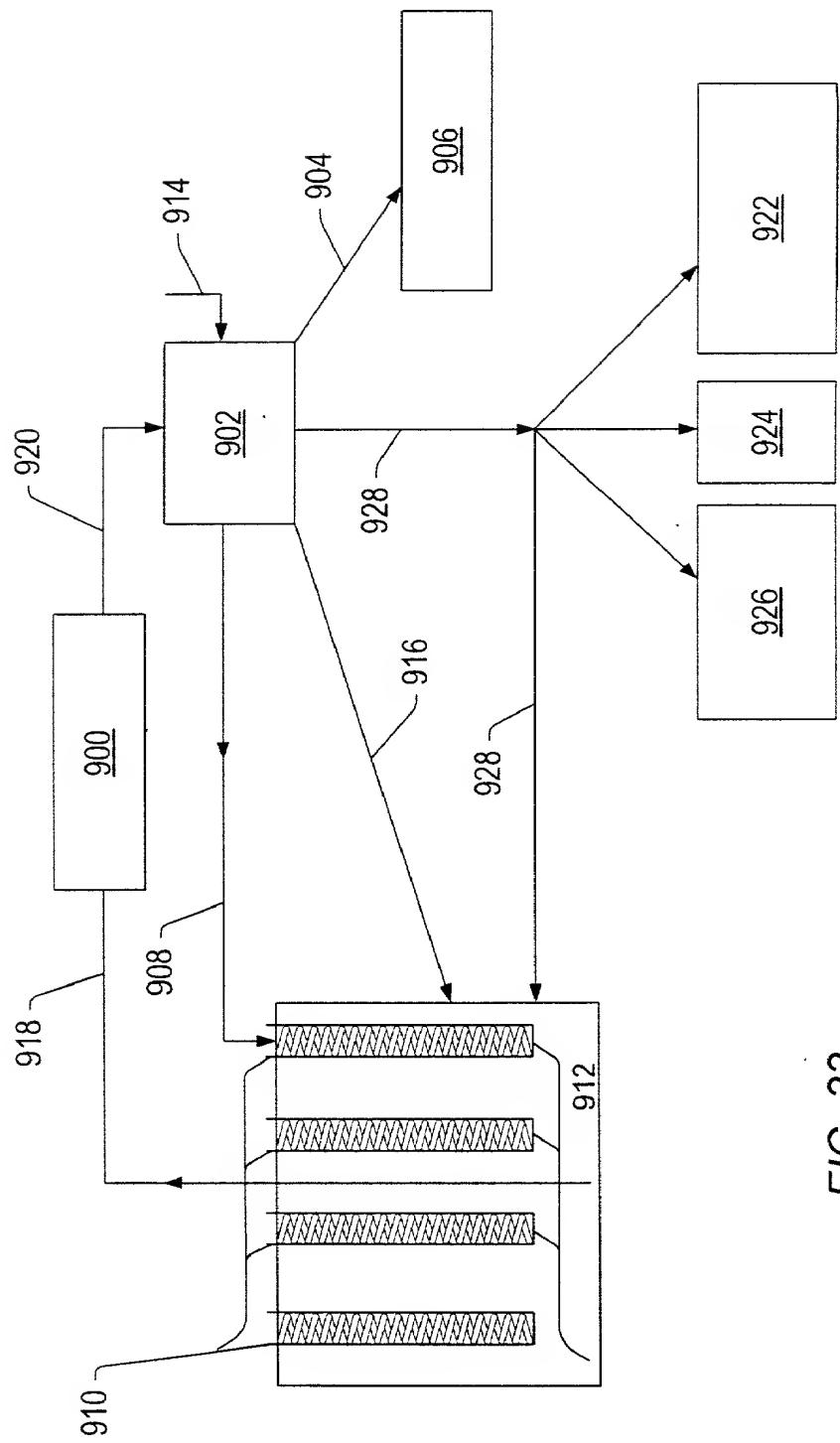


FIG. 33

FIG. 34

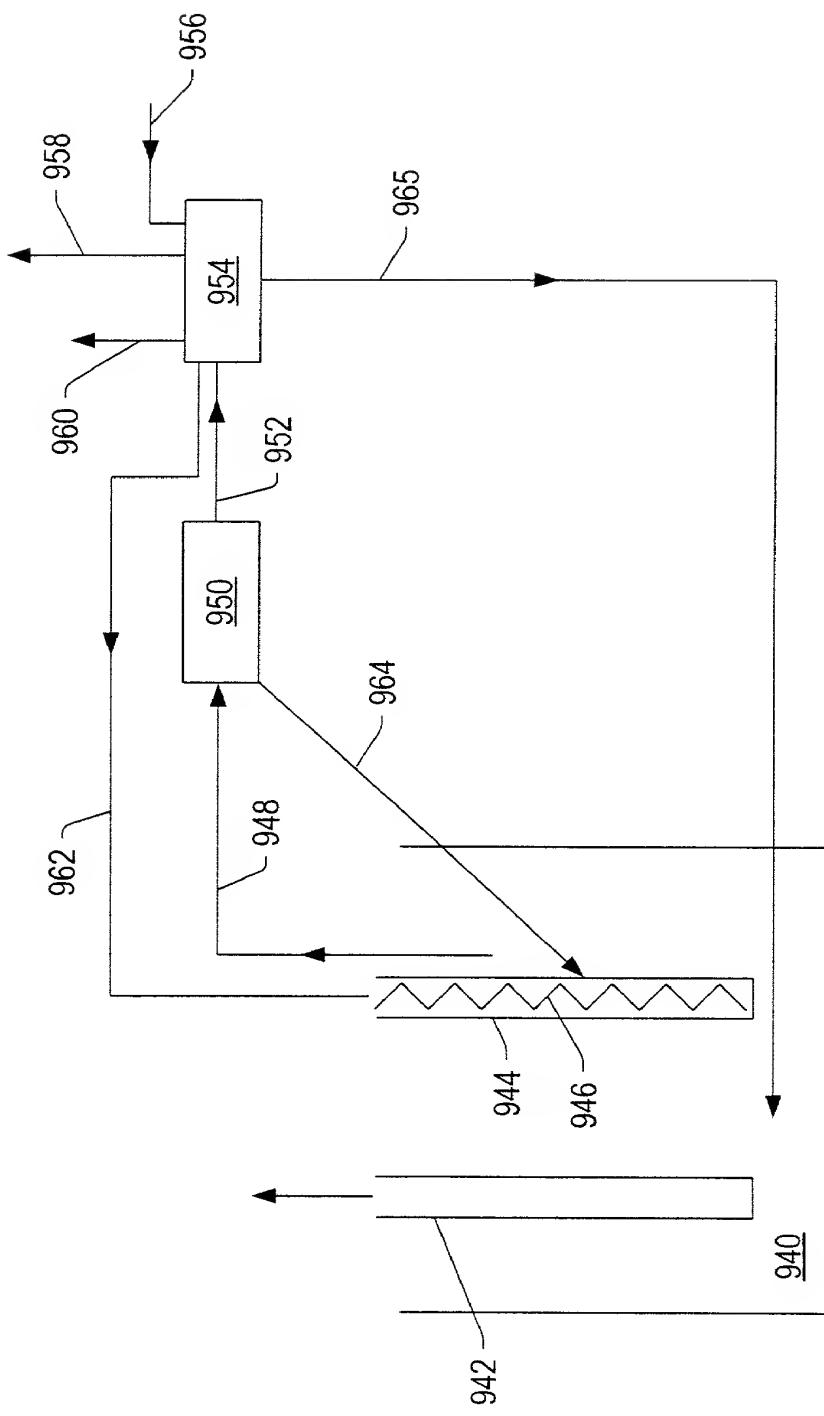
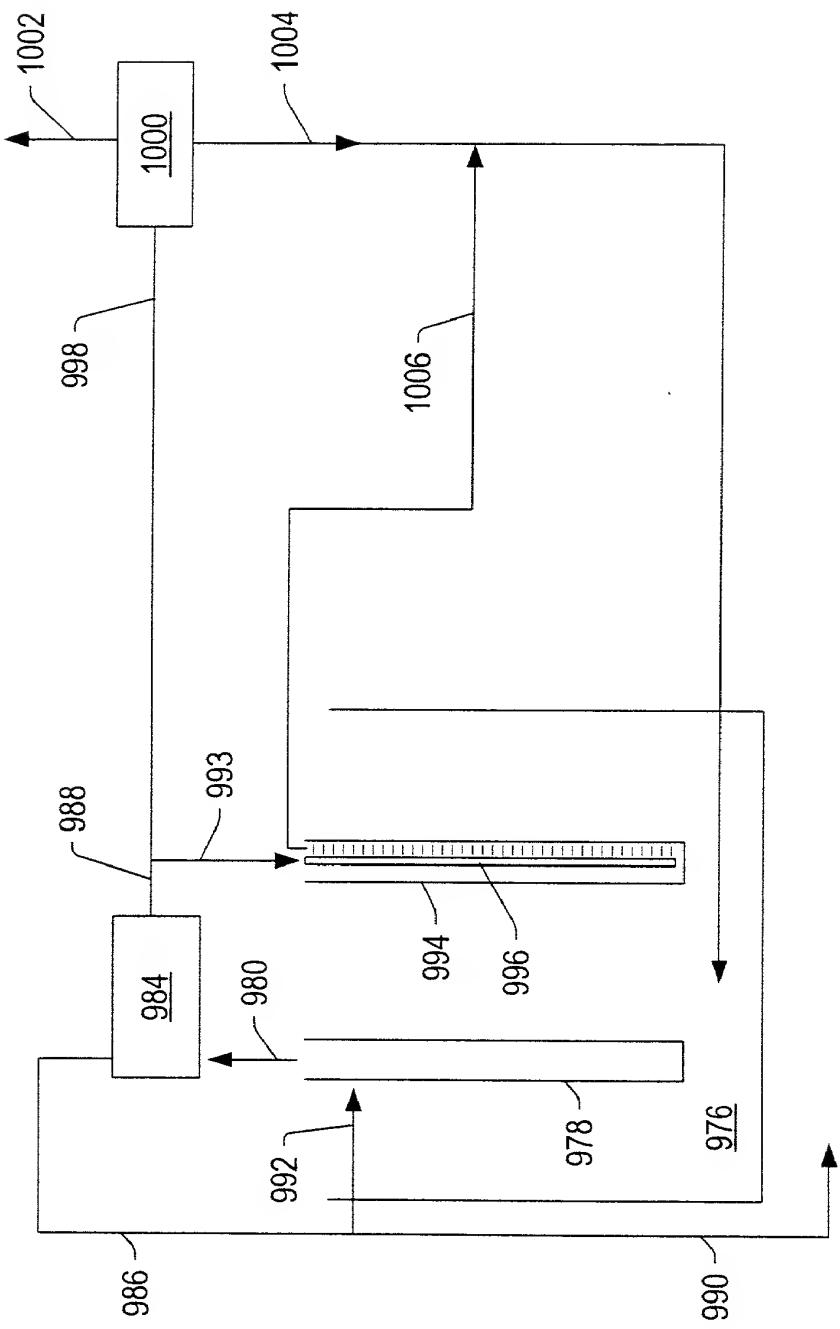


FIG. 35



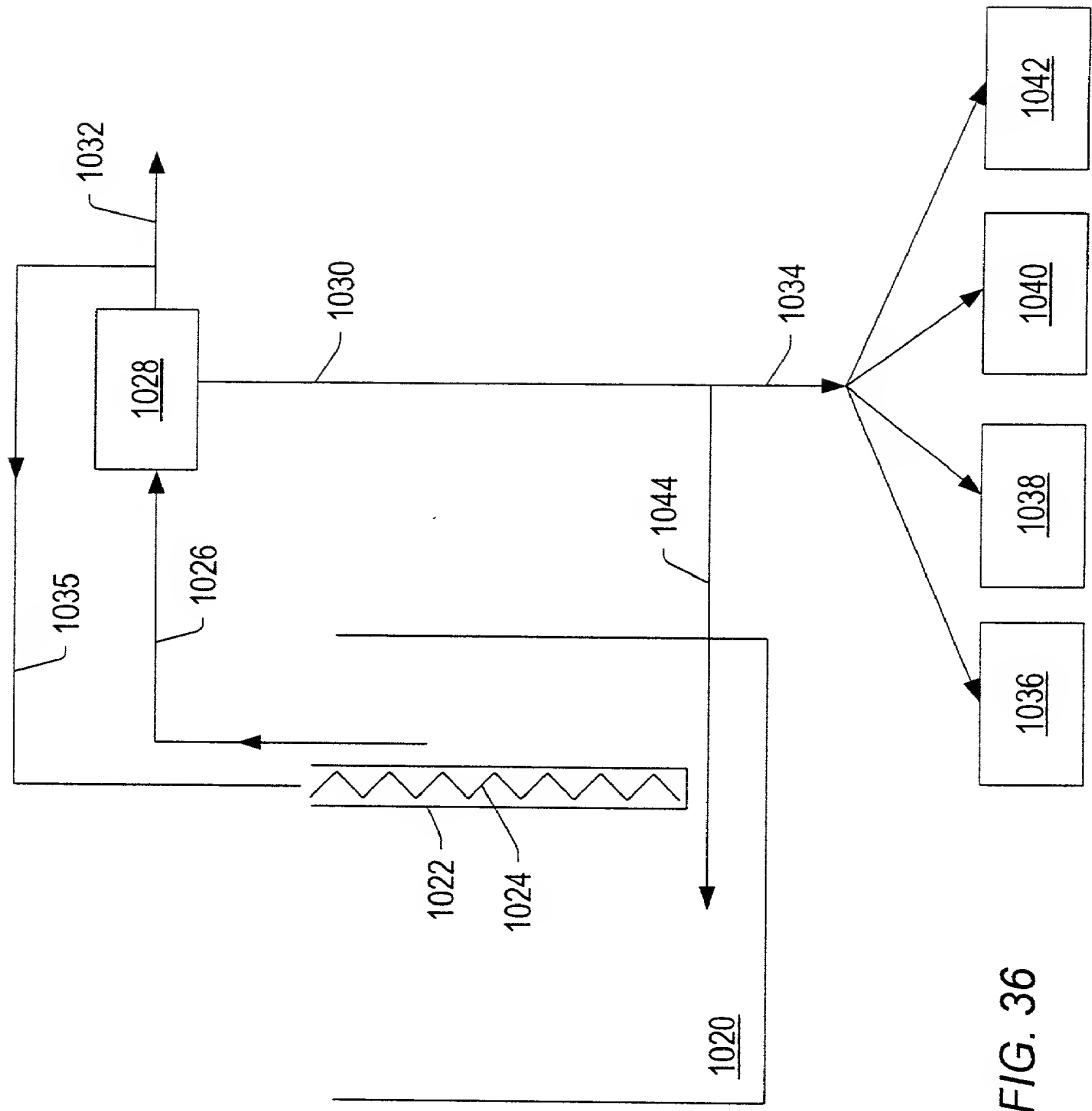
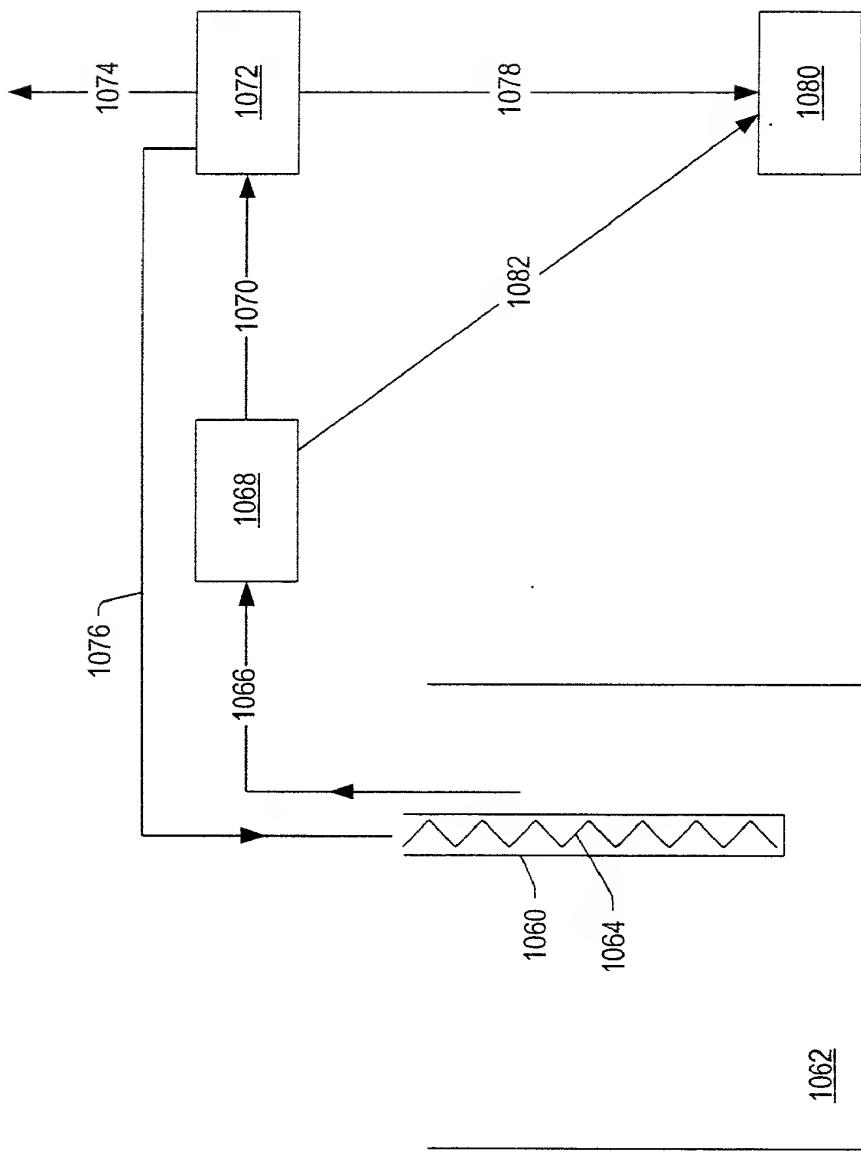


FIG. 36

FIG. 37

1060 1064  
1062



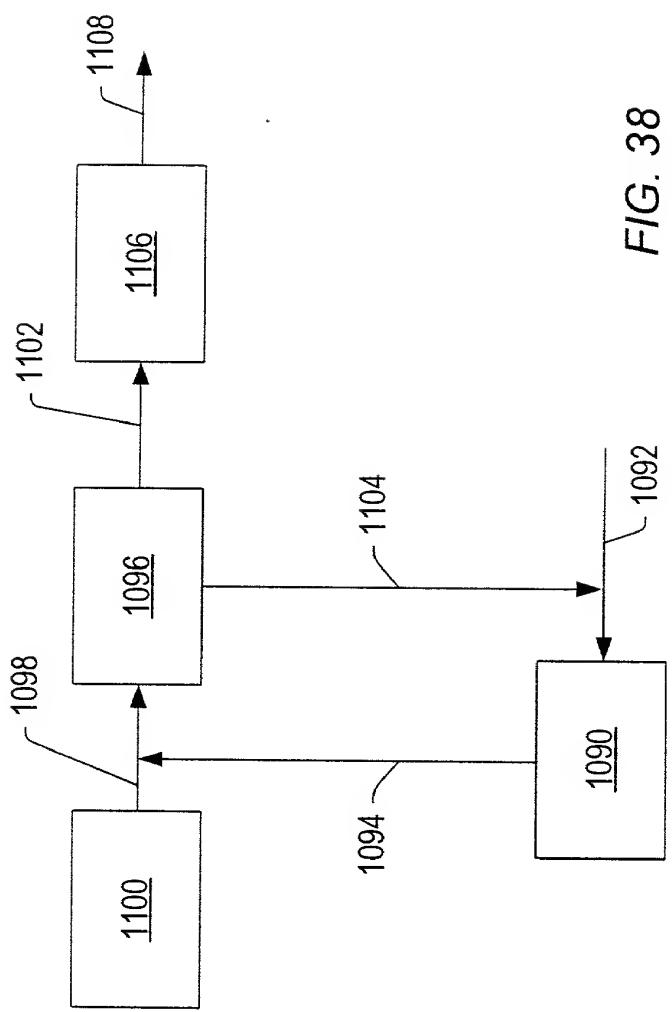


FIG. 38

FIG. 39

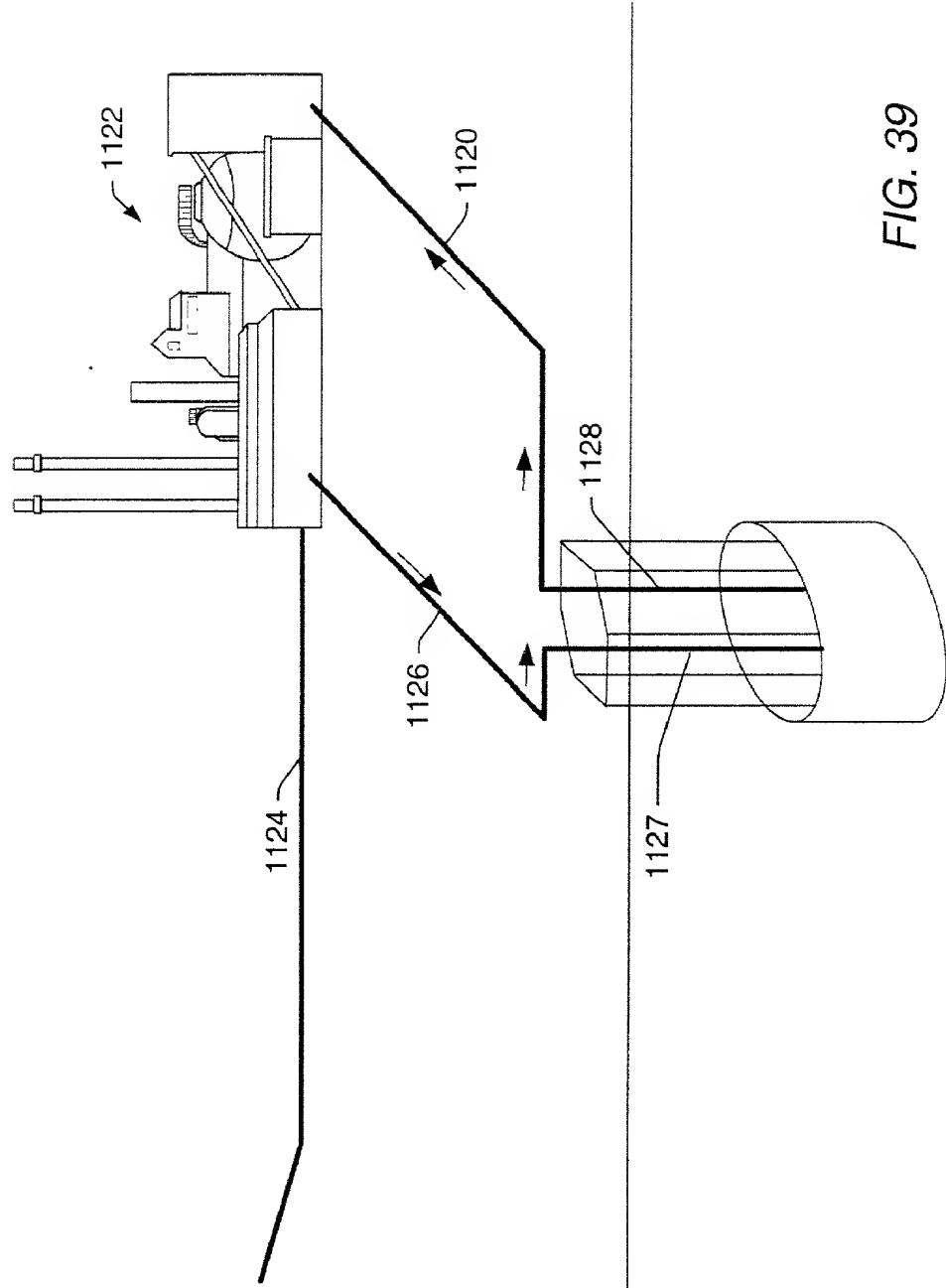
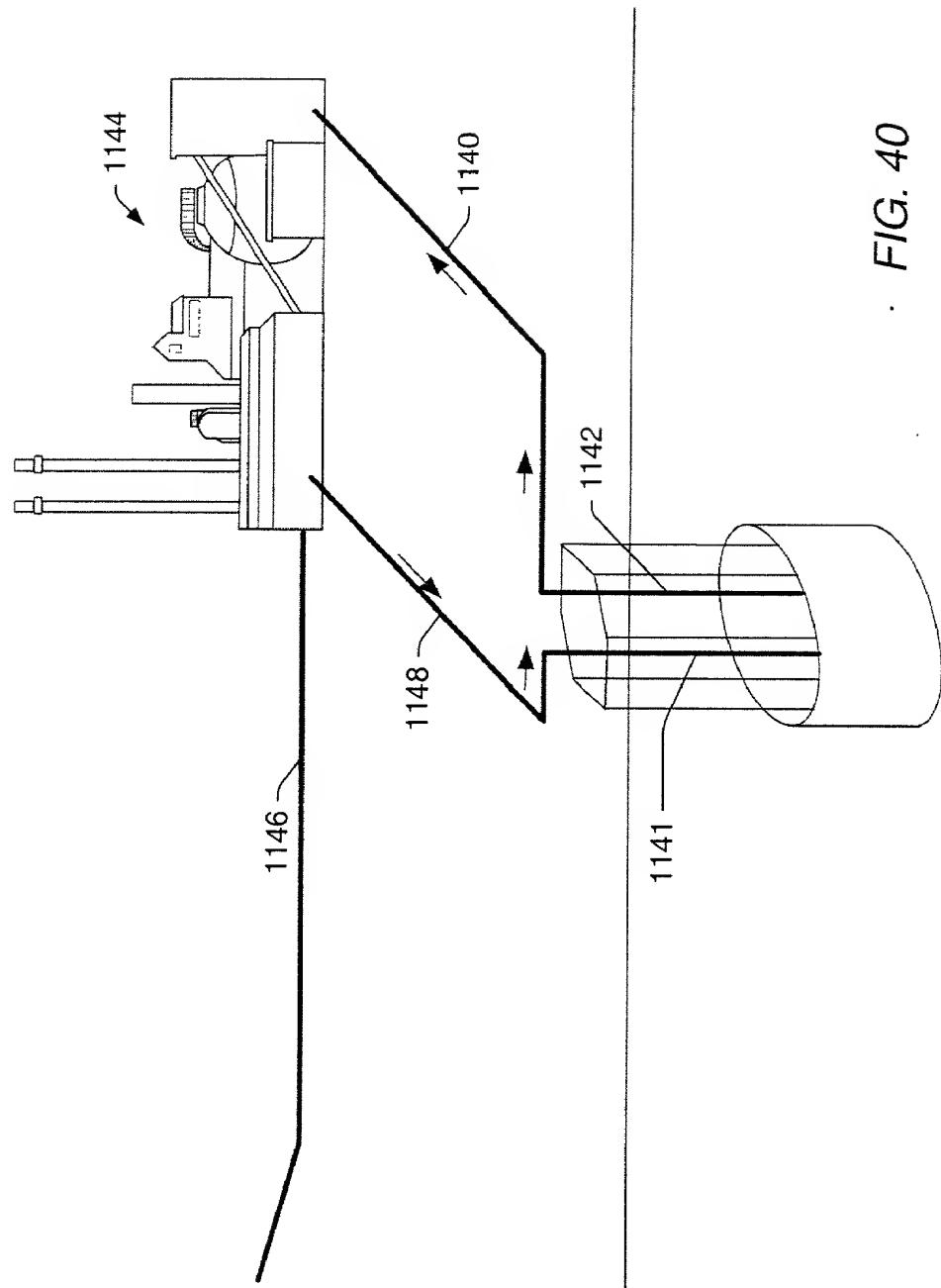


FIG. 40



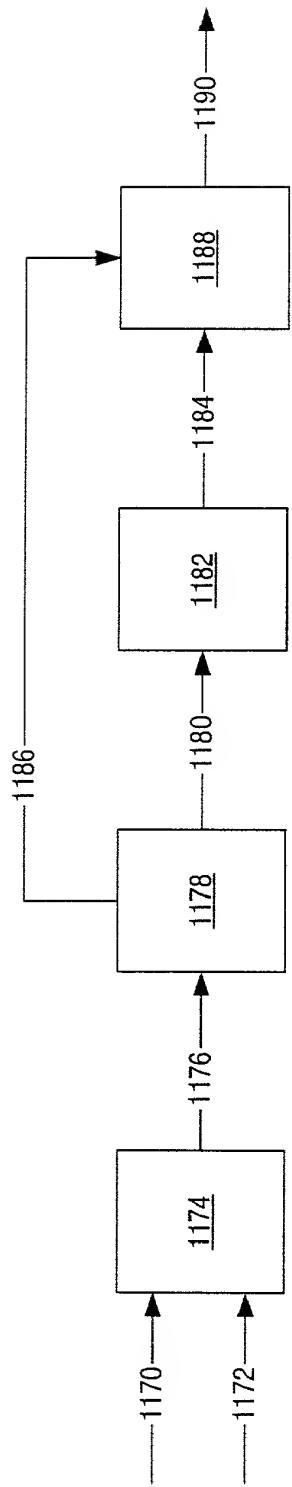
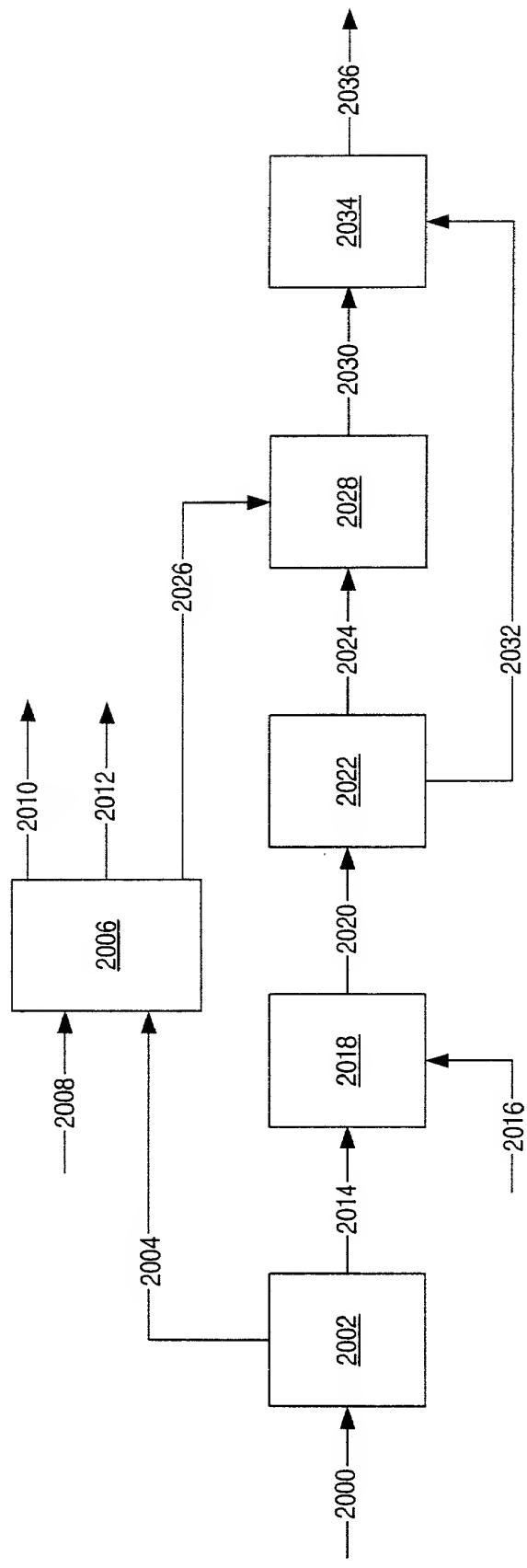
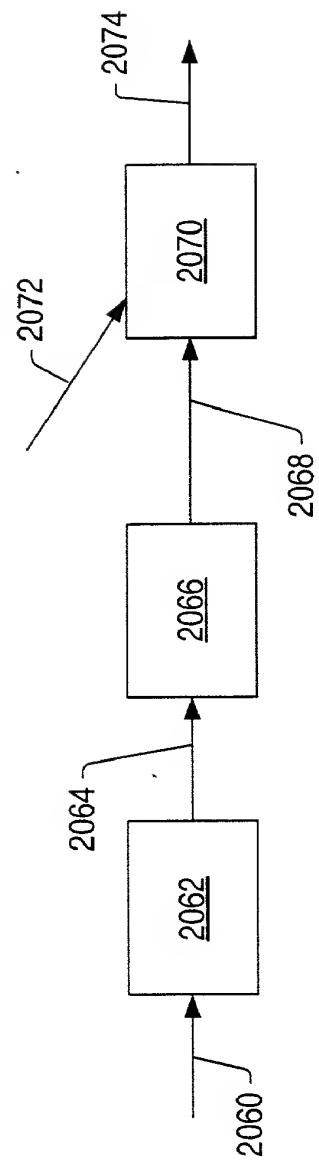


FIG. 41

FIG. 42



*FIG. 43*



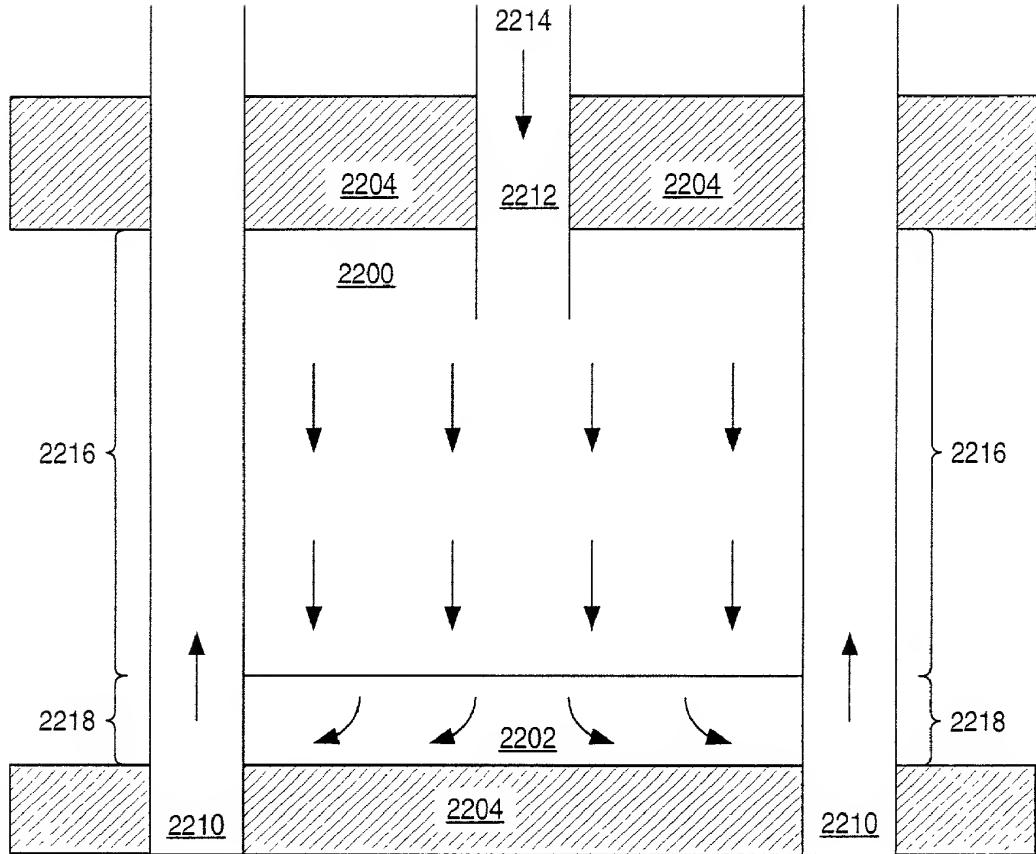


FIG. 44

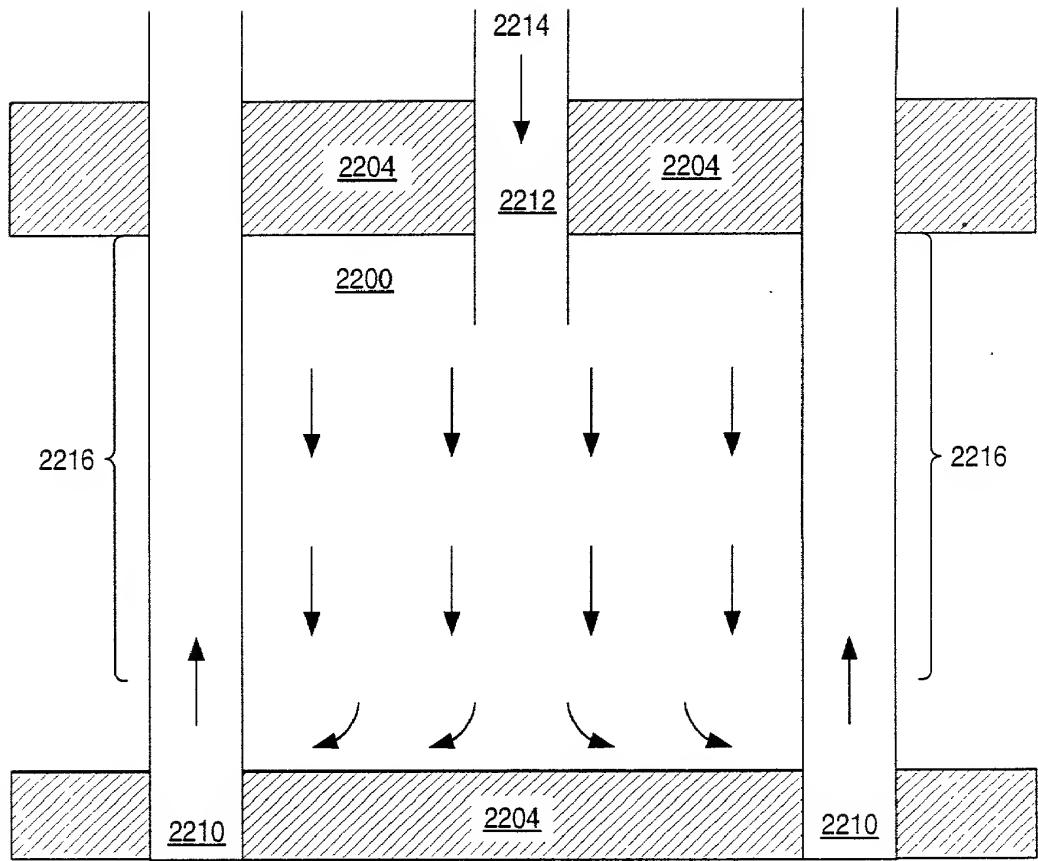
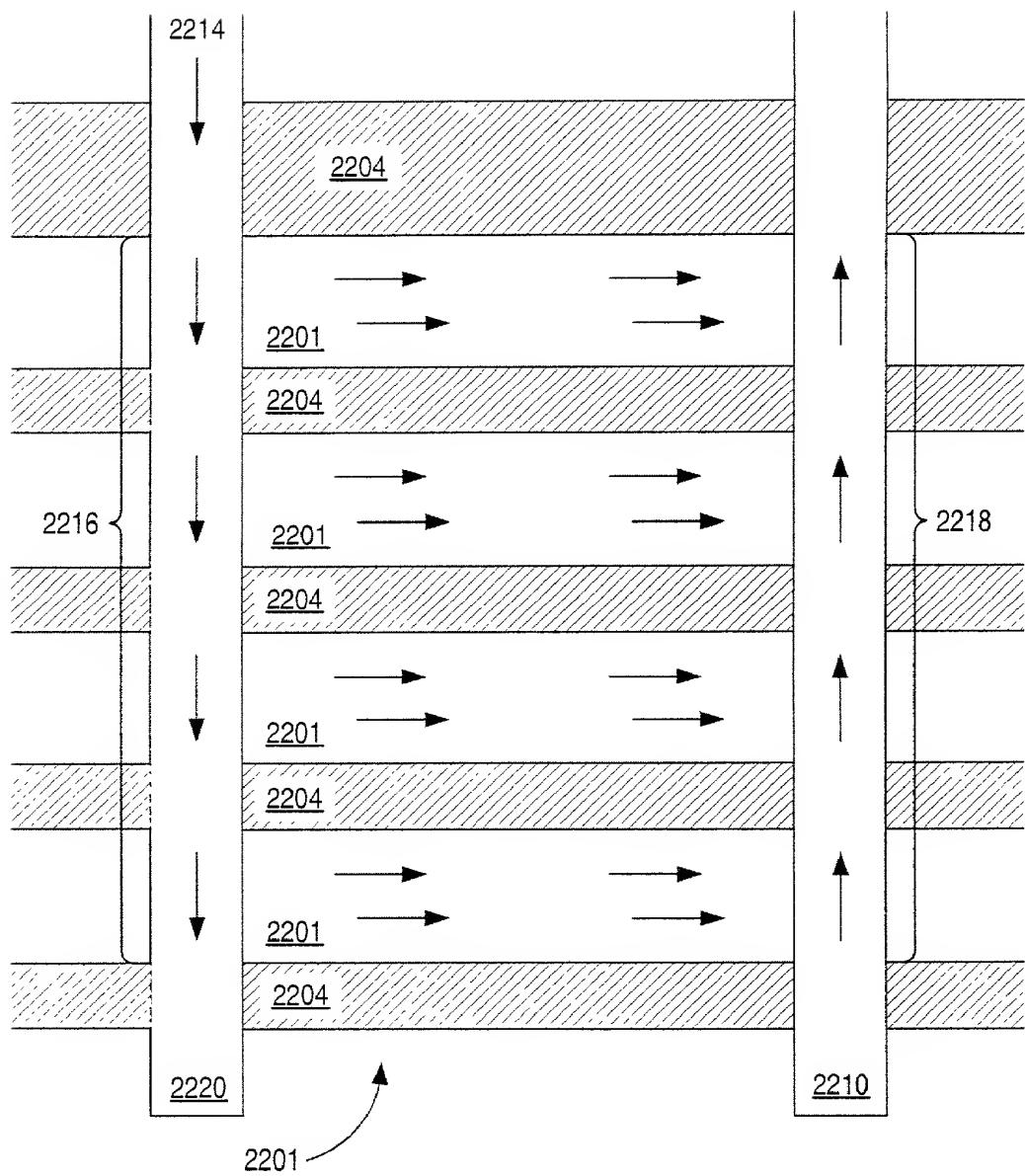
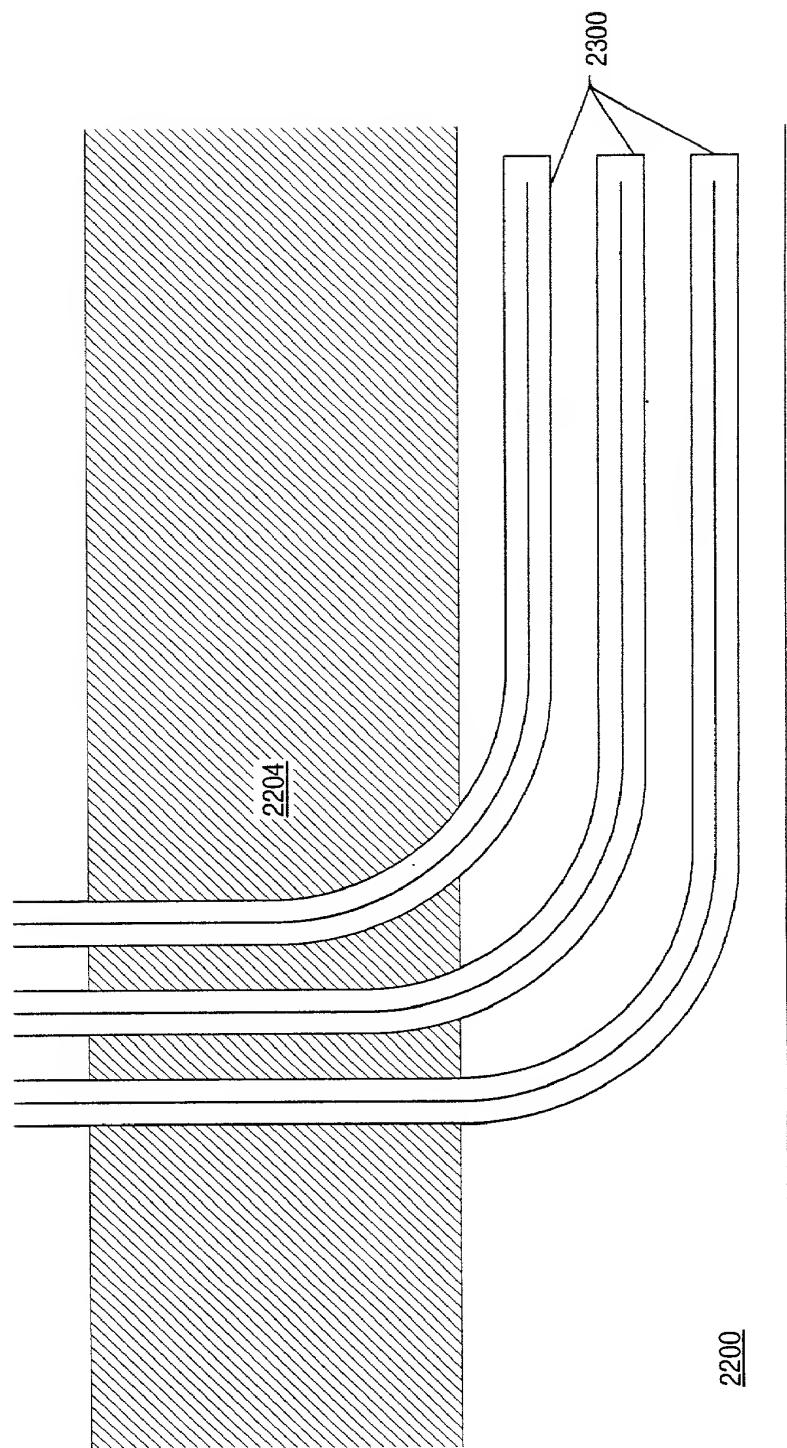


FIG. 45



*FIG. 46*

FIG. 47



2302  
2204  
2300

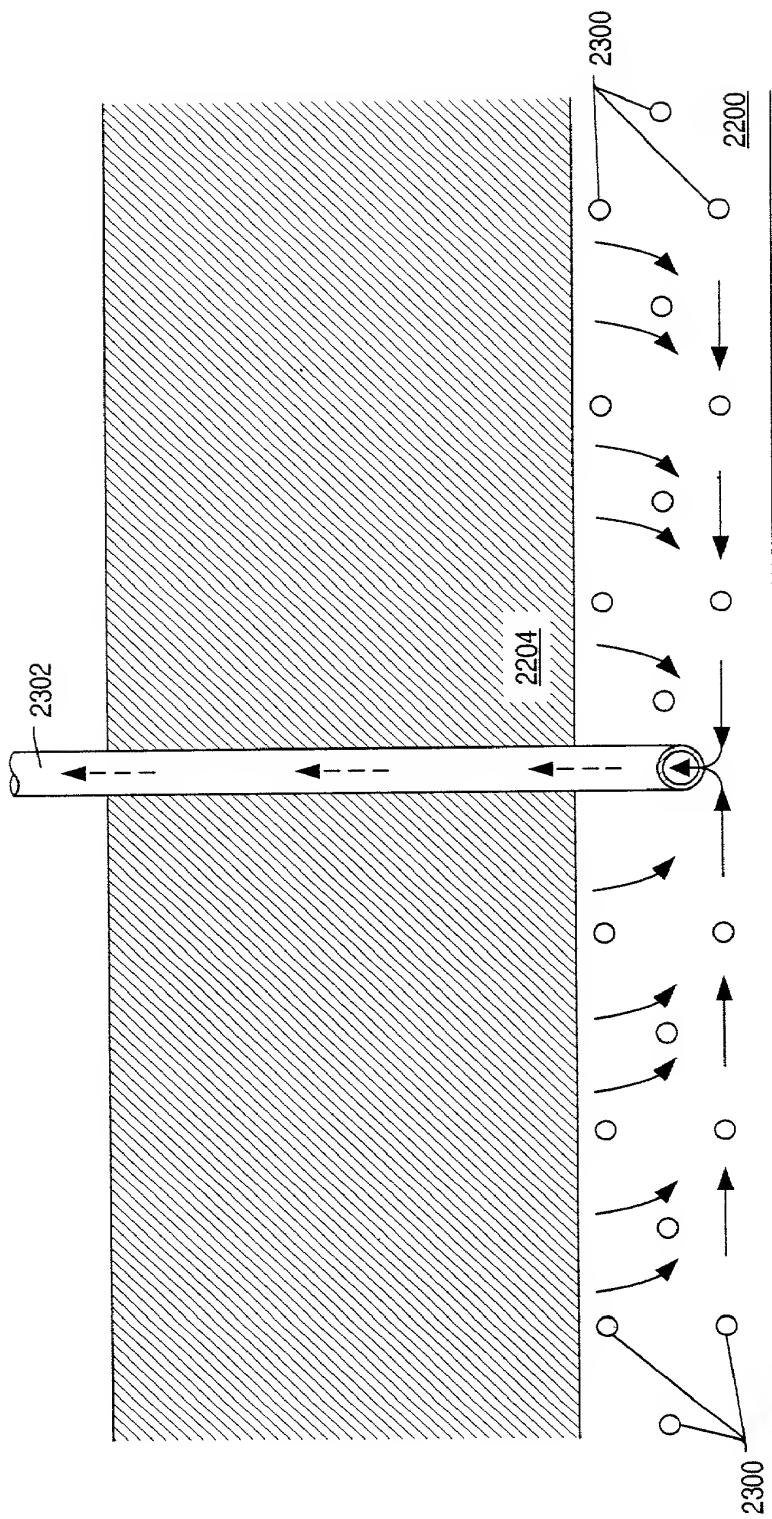
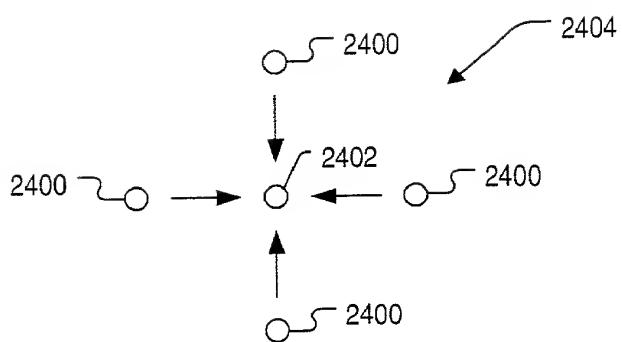
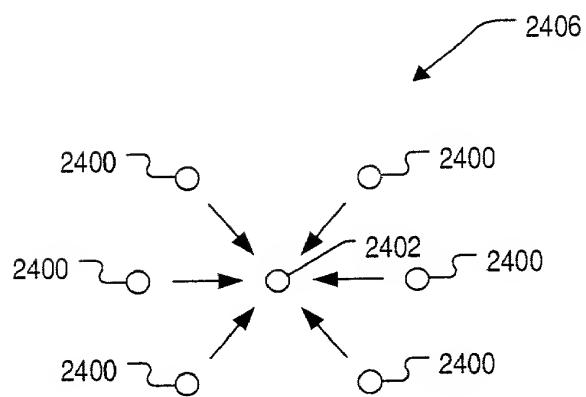


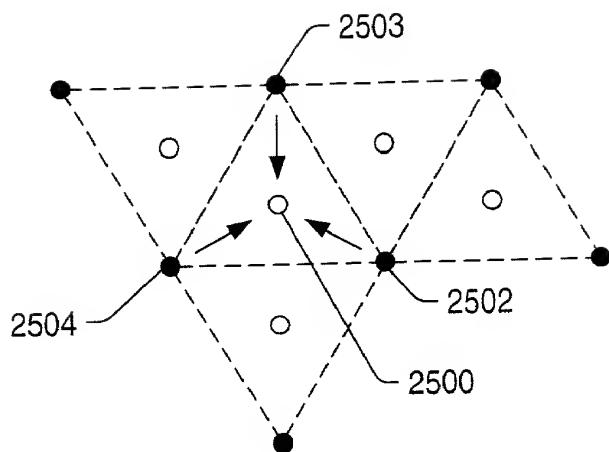
FIG. 48



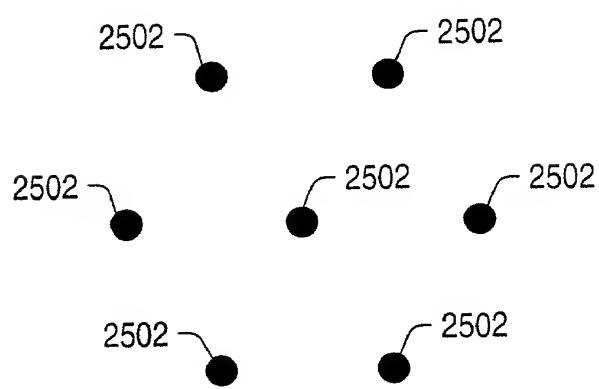
*FIG. 49*



*FIG. 50*



*FIG. 51*



*FIG. 52*

LITERATURE CITED

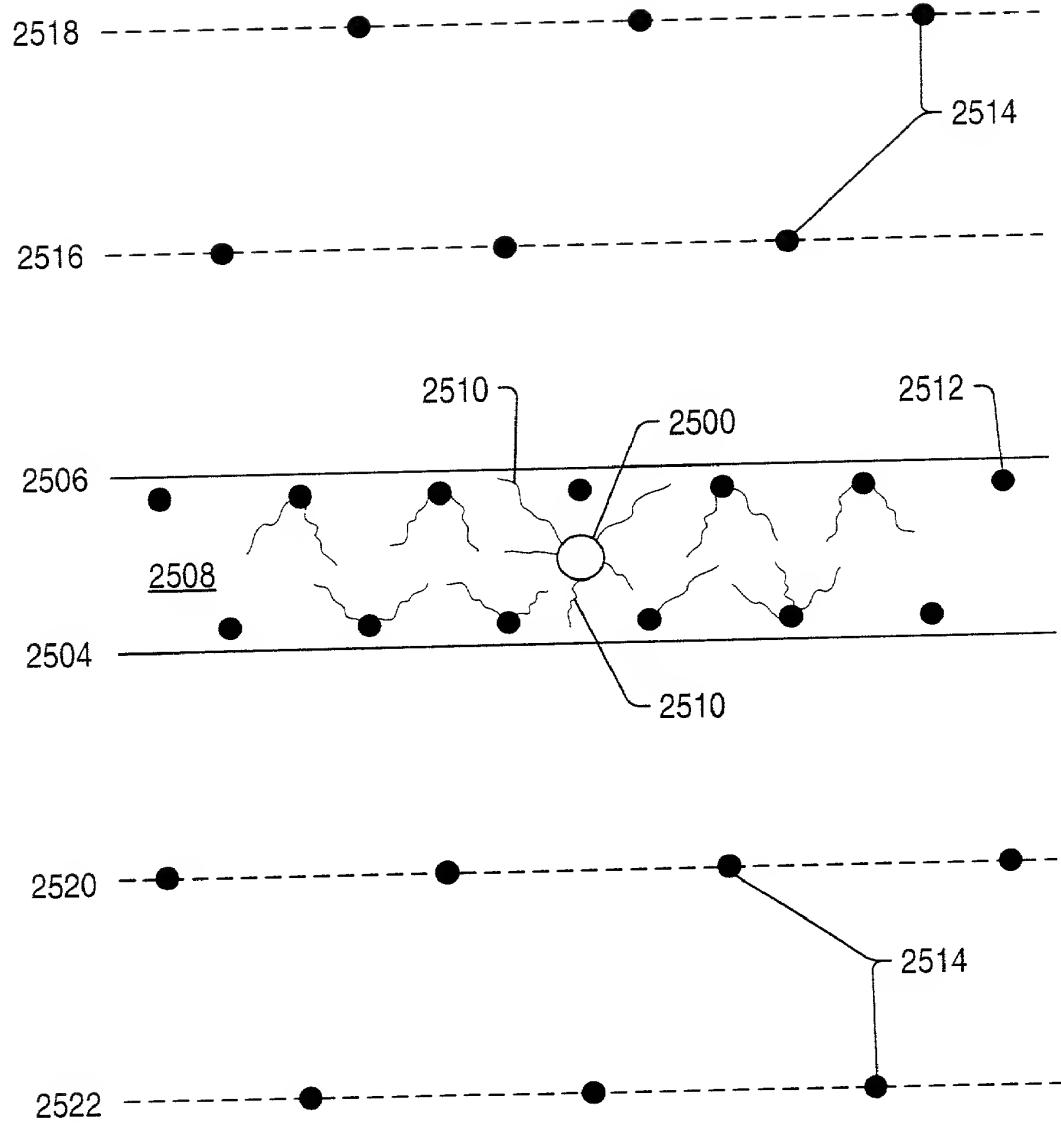


FIG. 53

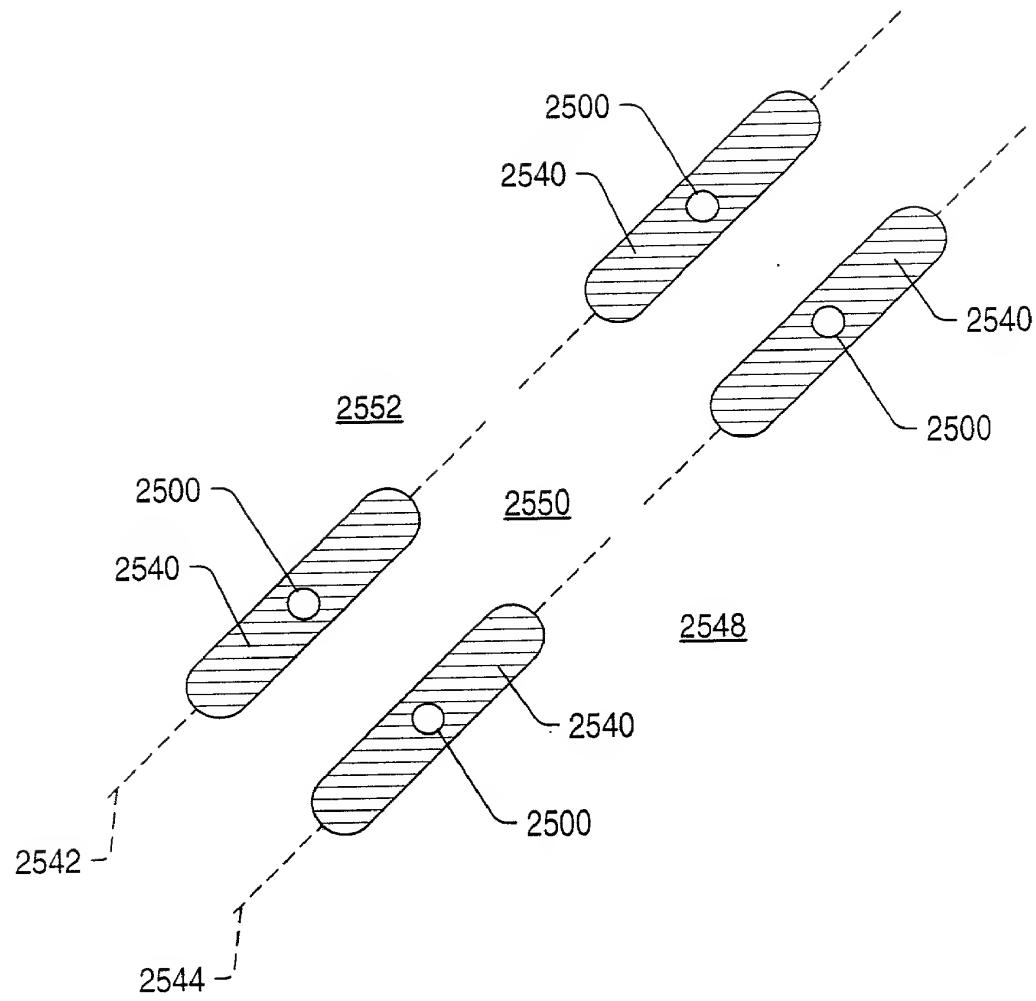


FIG. 54

DRAFT - DO NOT CITE

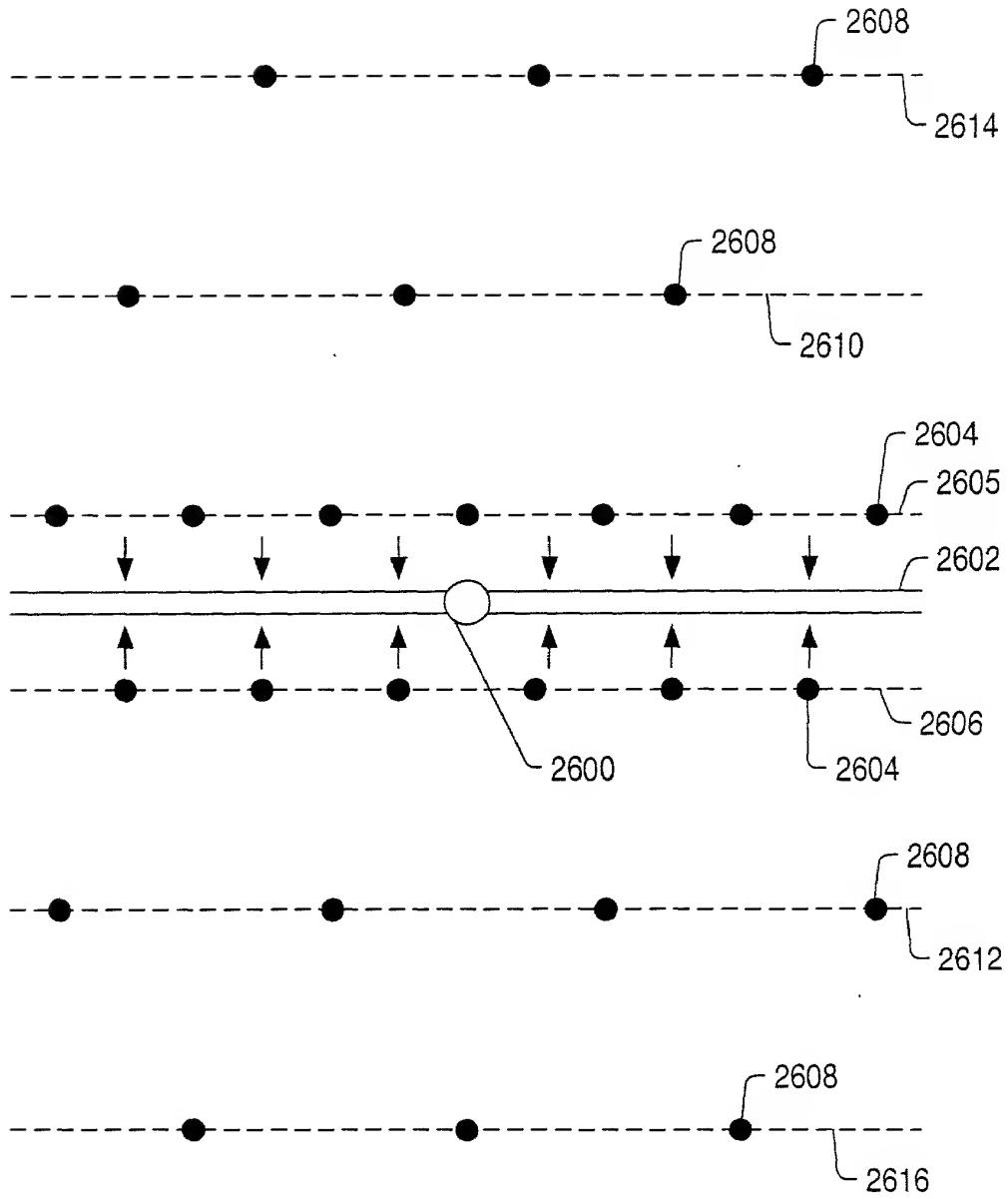


FIG. 55

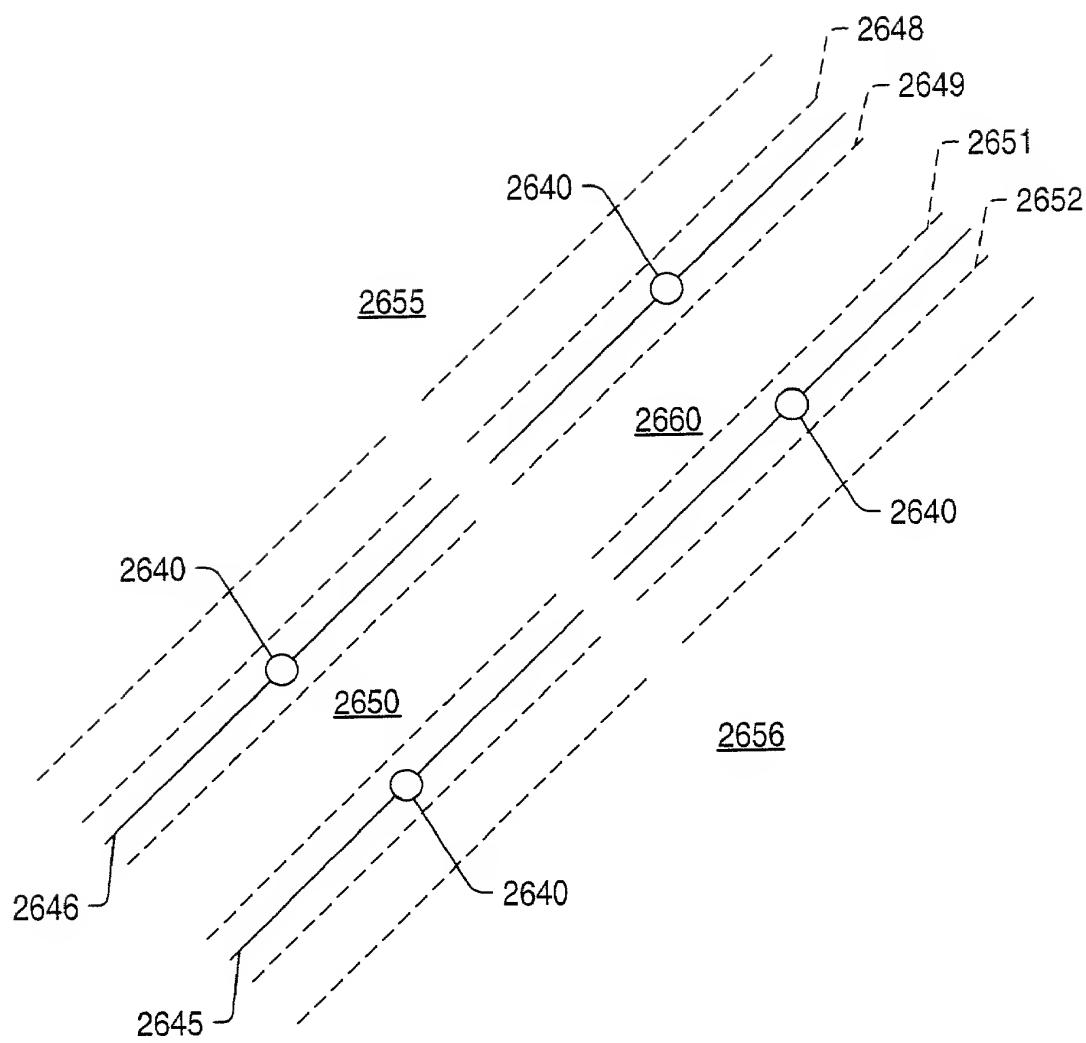


FIG. 56

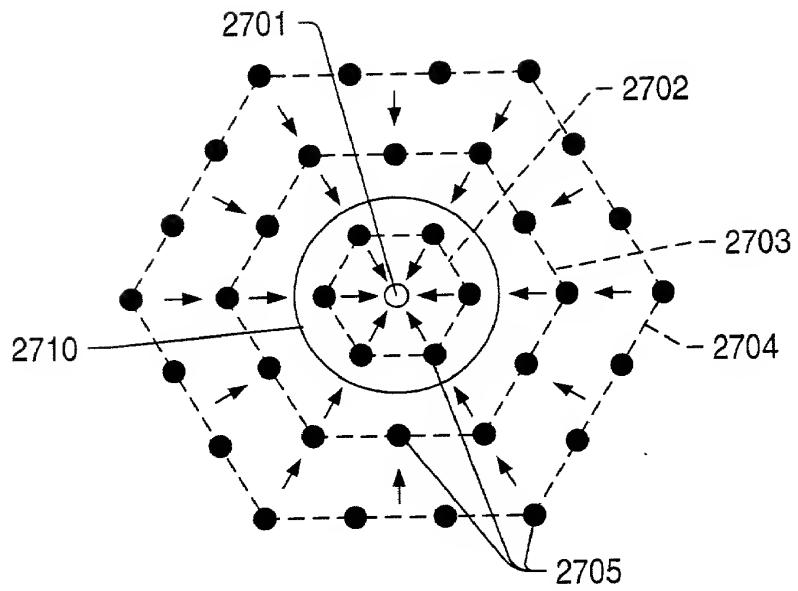


FIG. 57

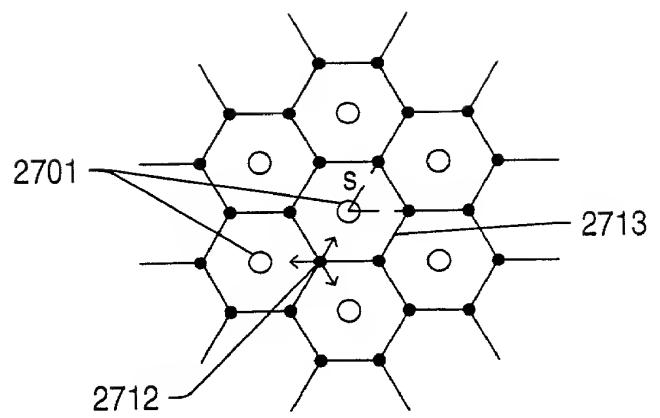


FIG. 58

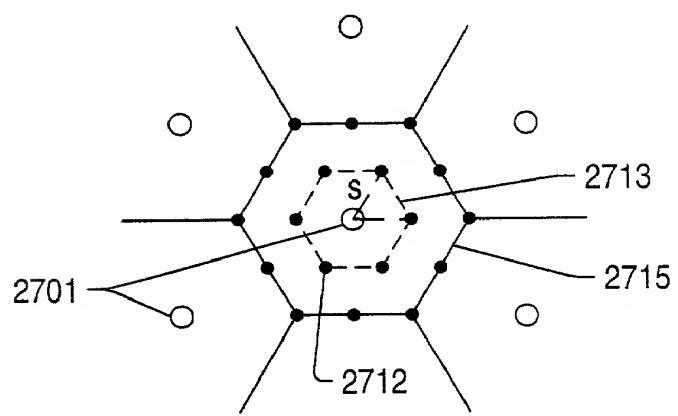
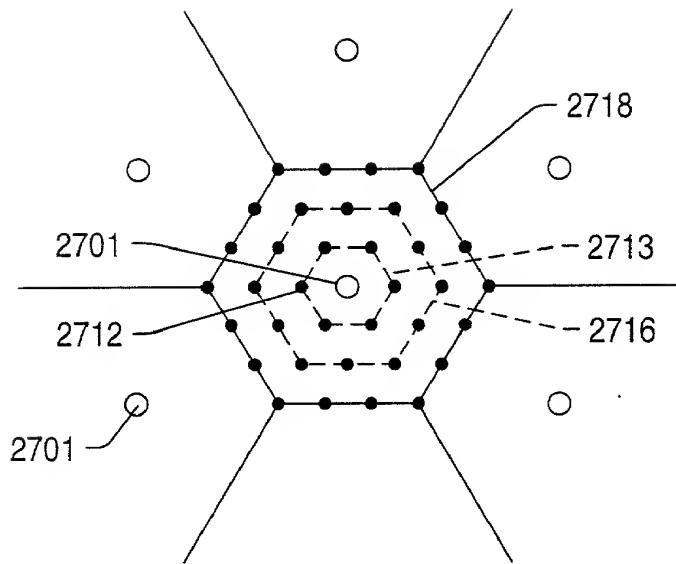
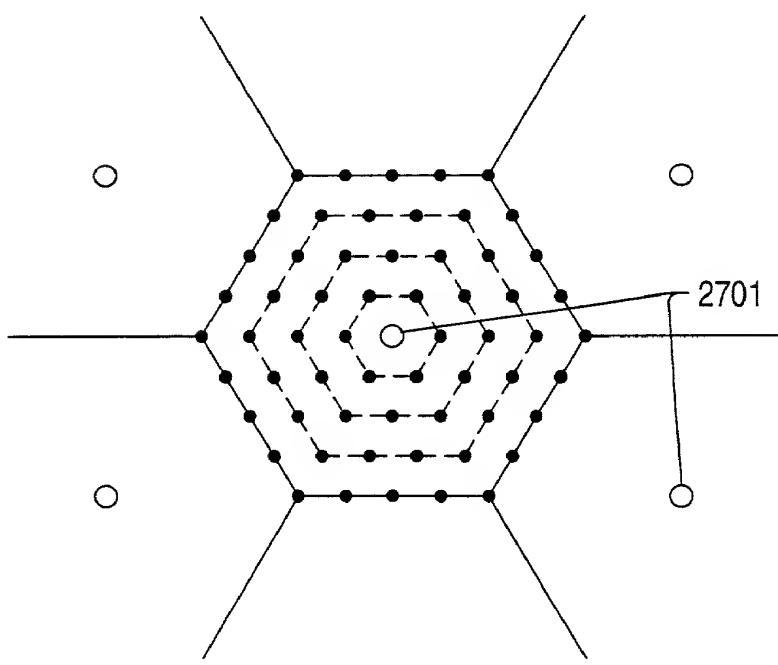


FIG. 59



*FIG. 60*



*FIG. 61*

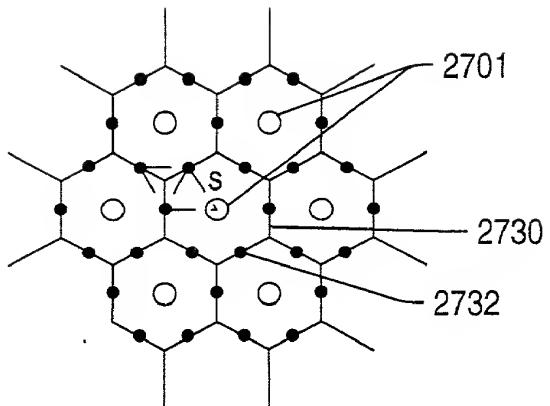


FIG. 62

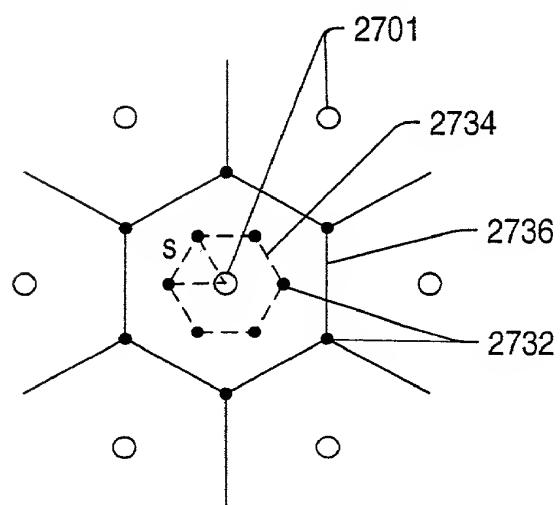


FIG. 63

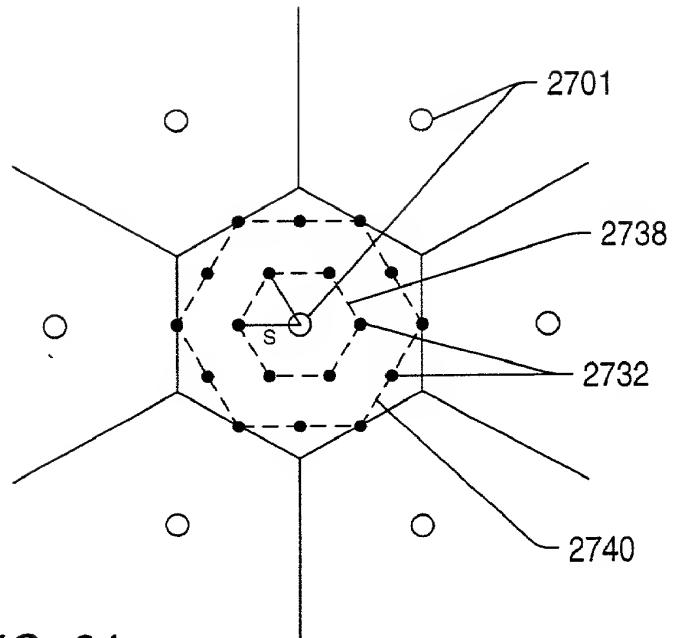


FIG. 64

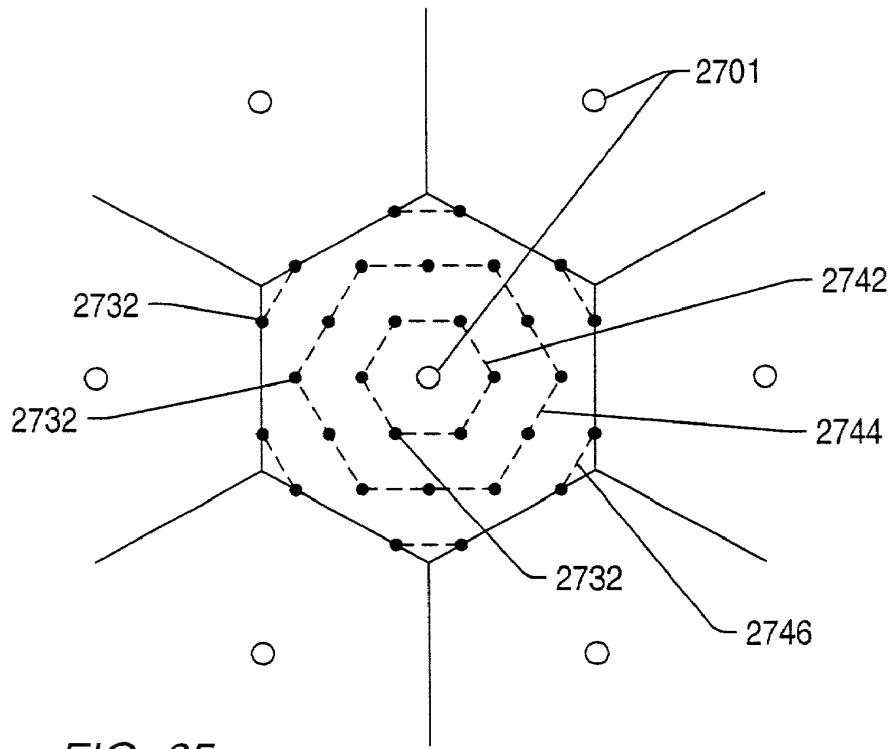


FIG. 65

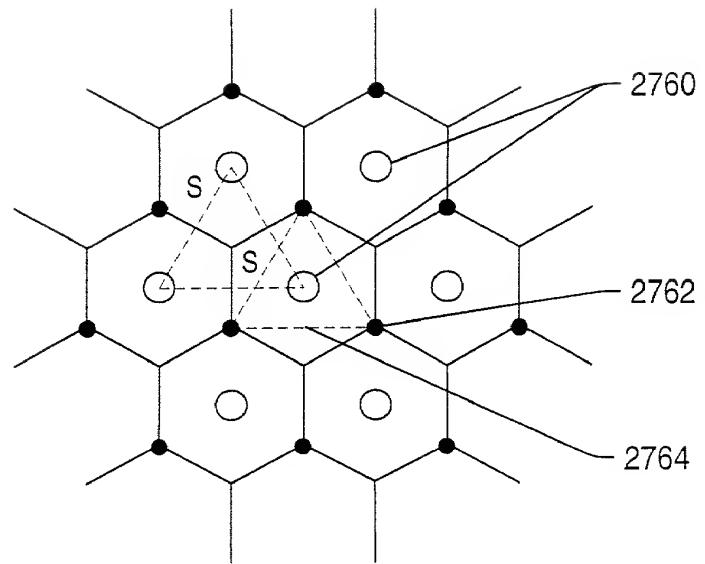


FIG. 66

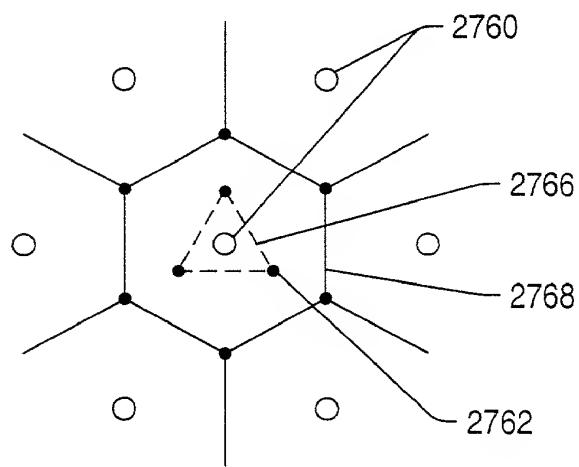


FIG. 67

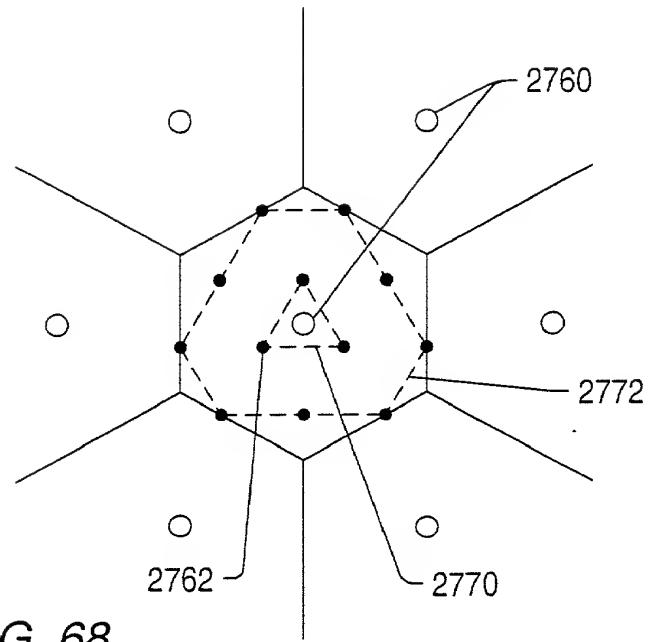


FIG. 68

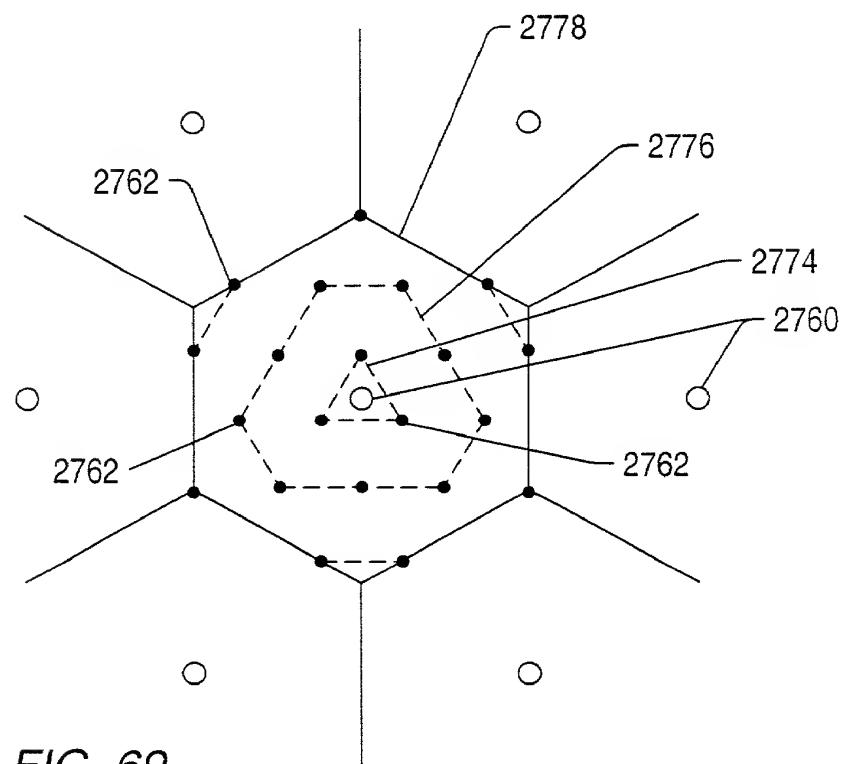


FIG. 69

2705  
2701  
2780  
2784  
2782

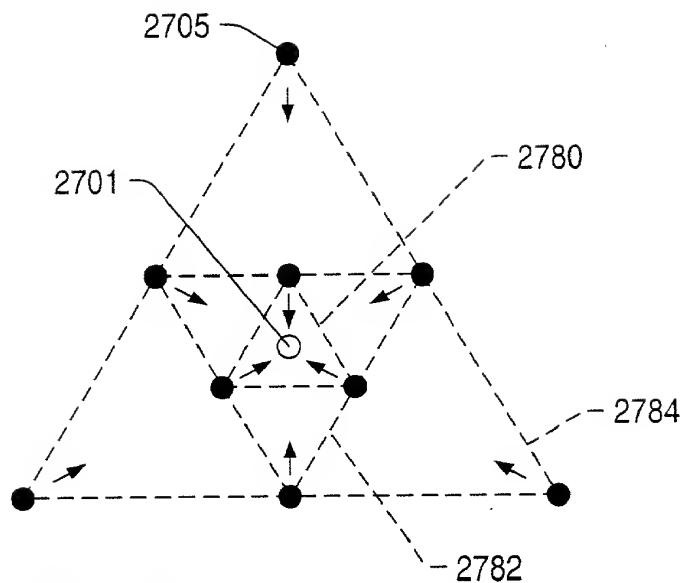


FIG. 70

2800 2802 2804 2806 2808 2810 2812 2814 2816 2818 2820 2822 2823 2824 2825 2827 2829 2830 2831 2832 2833 2834 2836 2838 2840

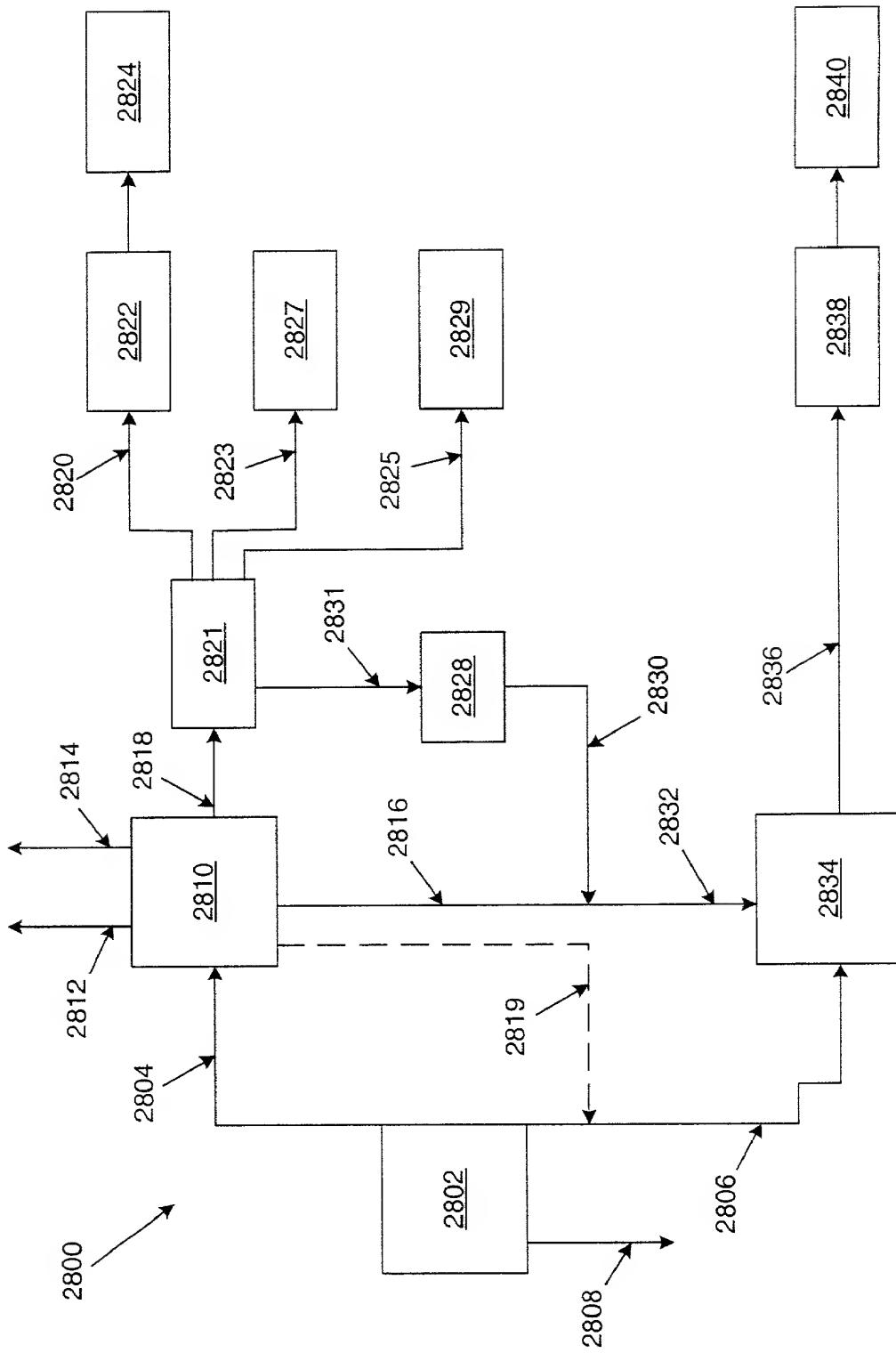
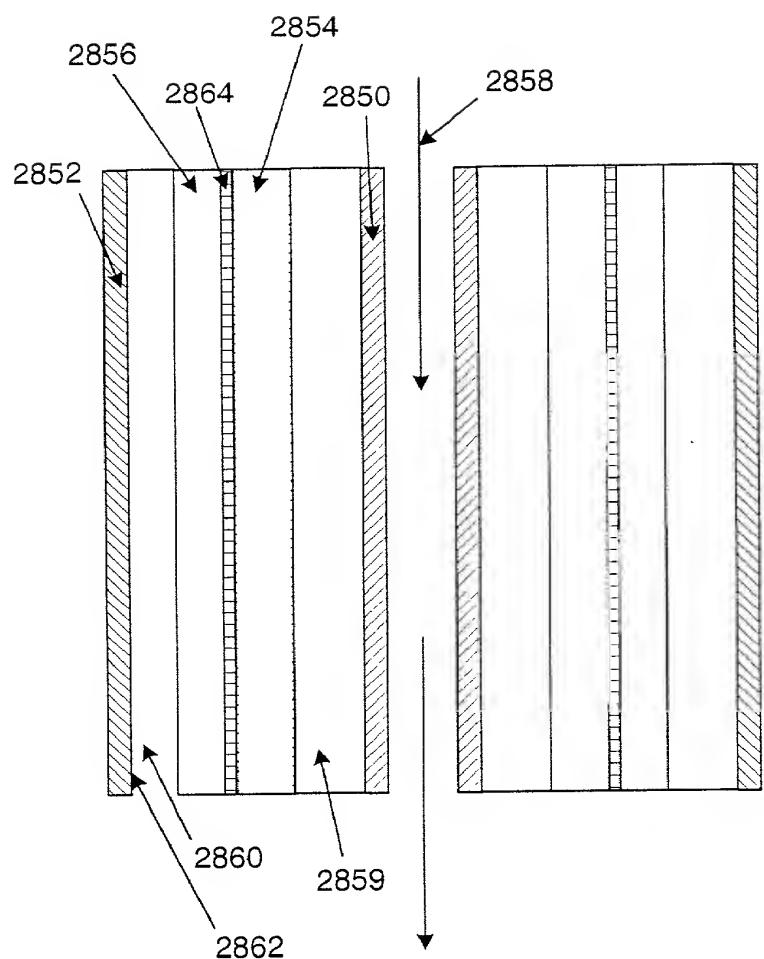


Fig. 71



*Fig. 72*

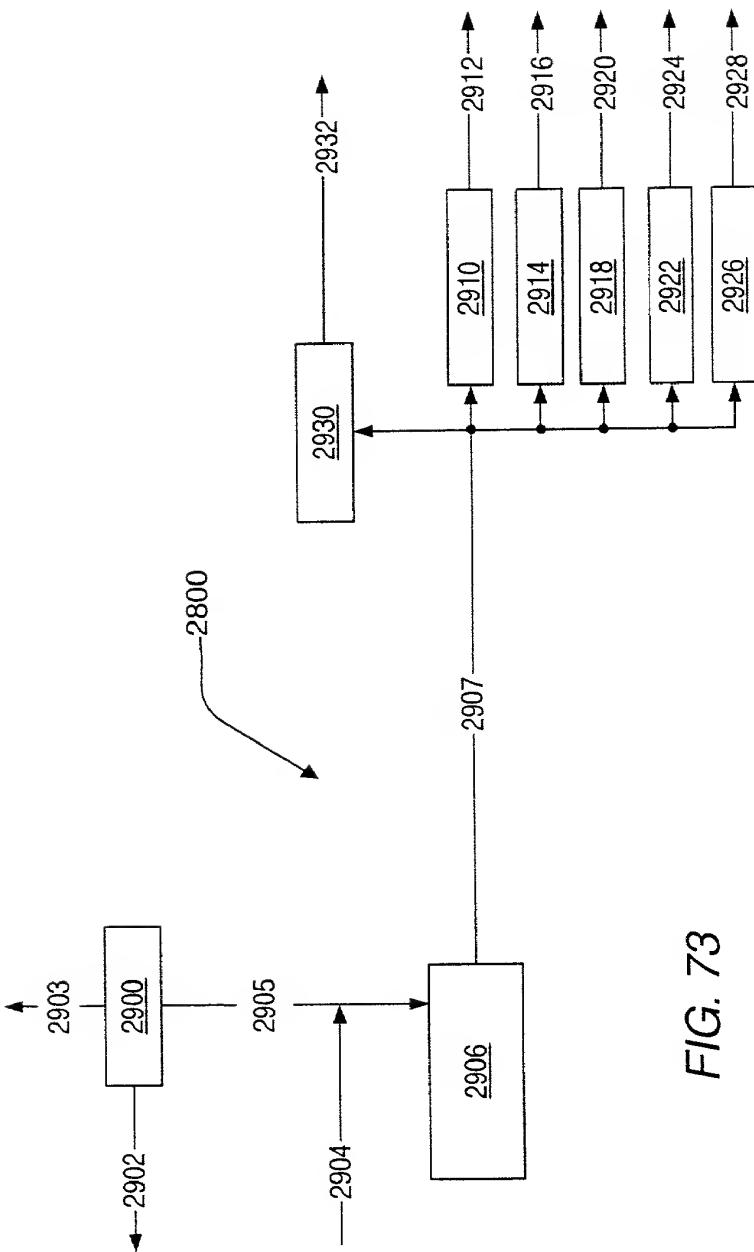
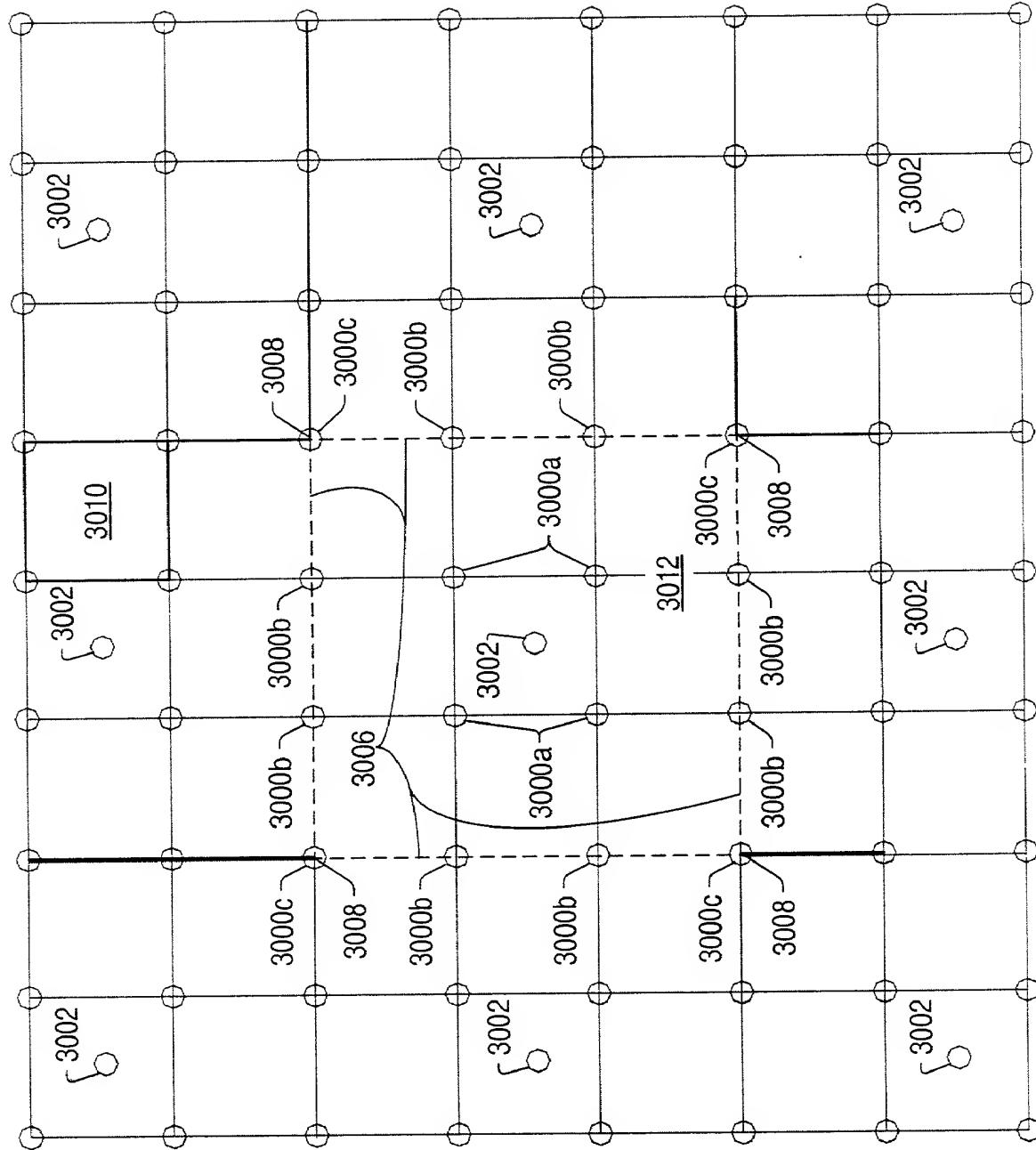


FIG. 73

FIG. 74



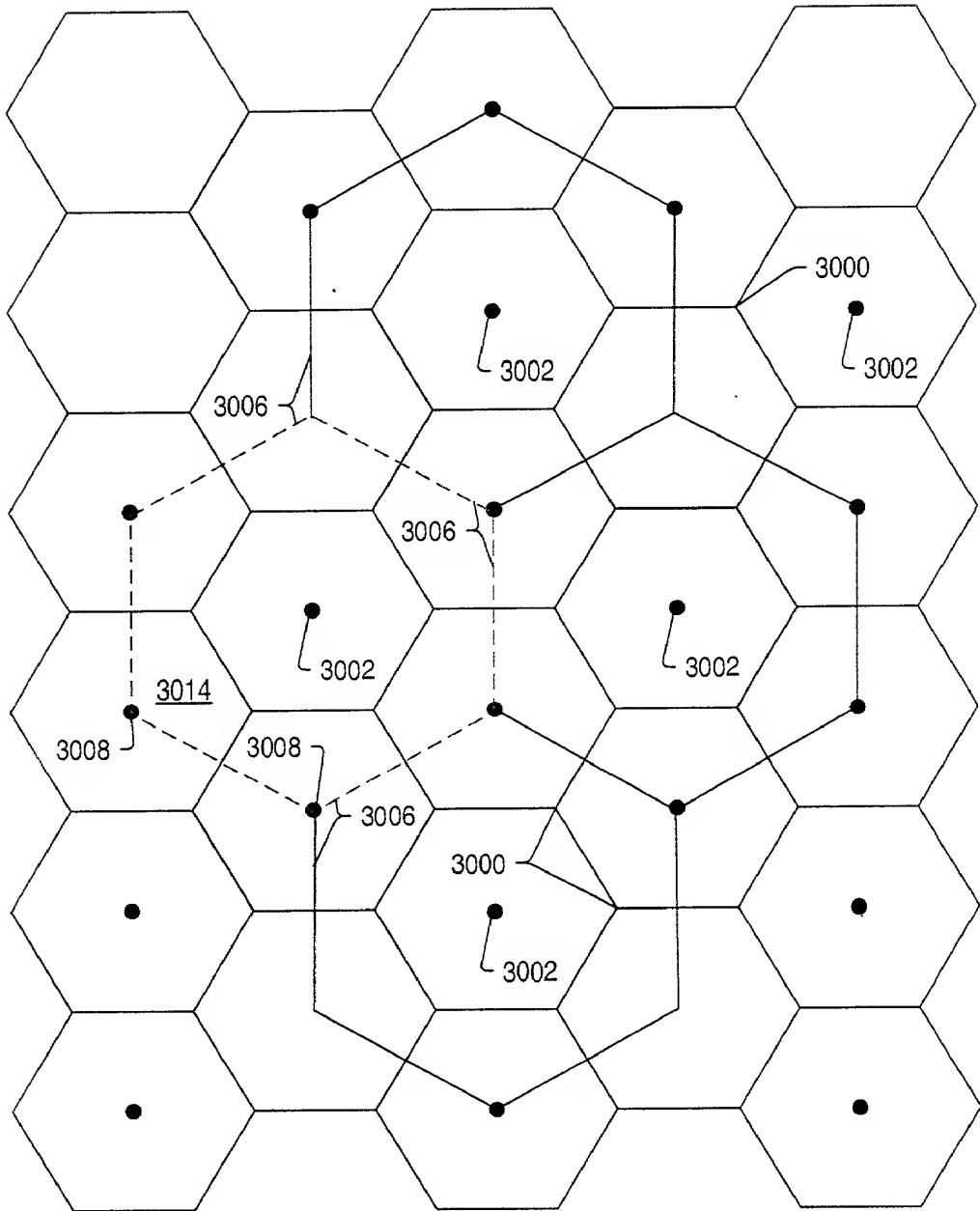


FIG. 75

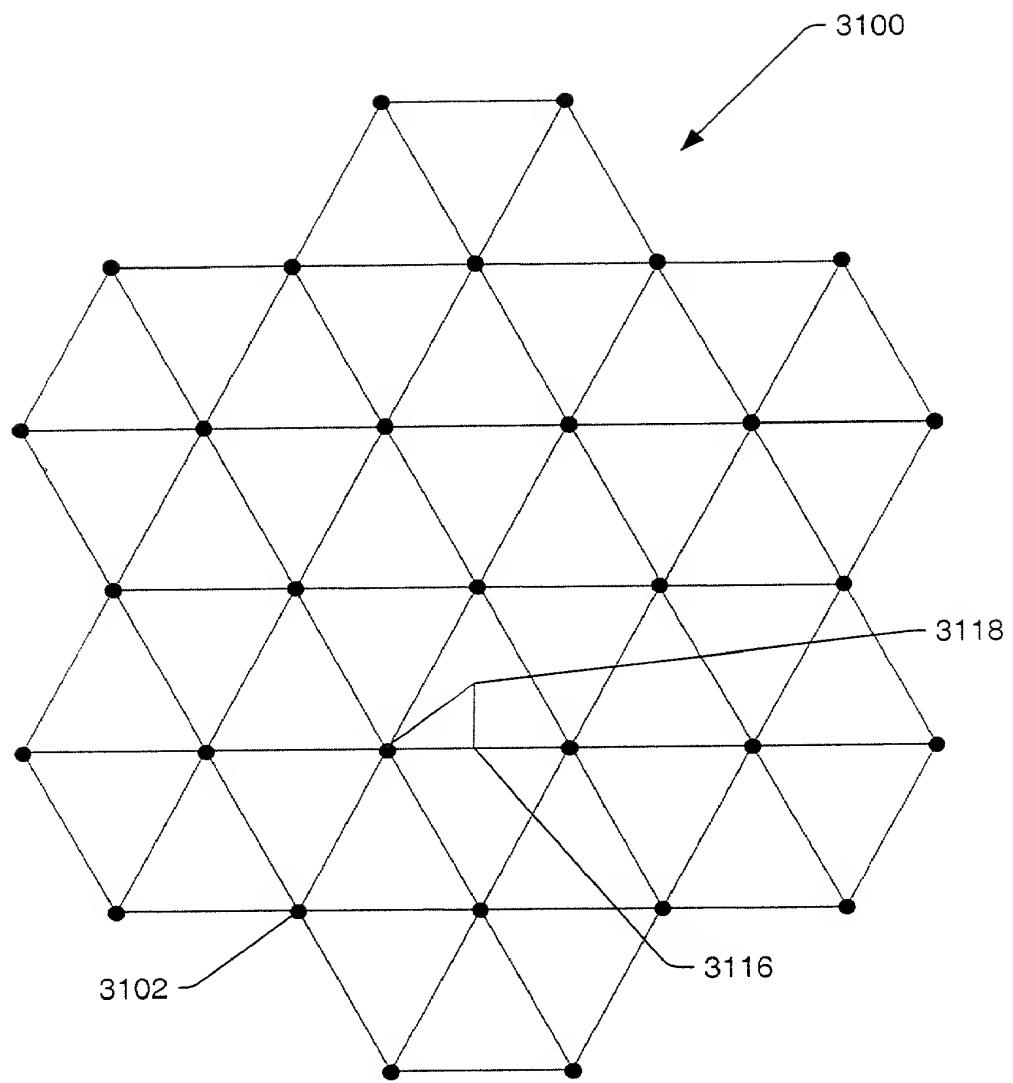


FIG. 76

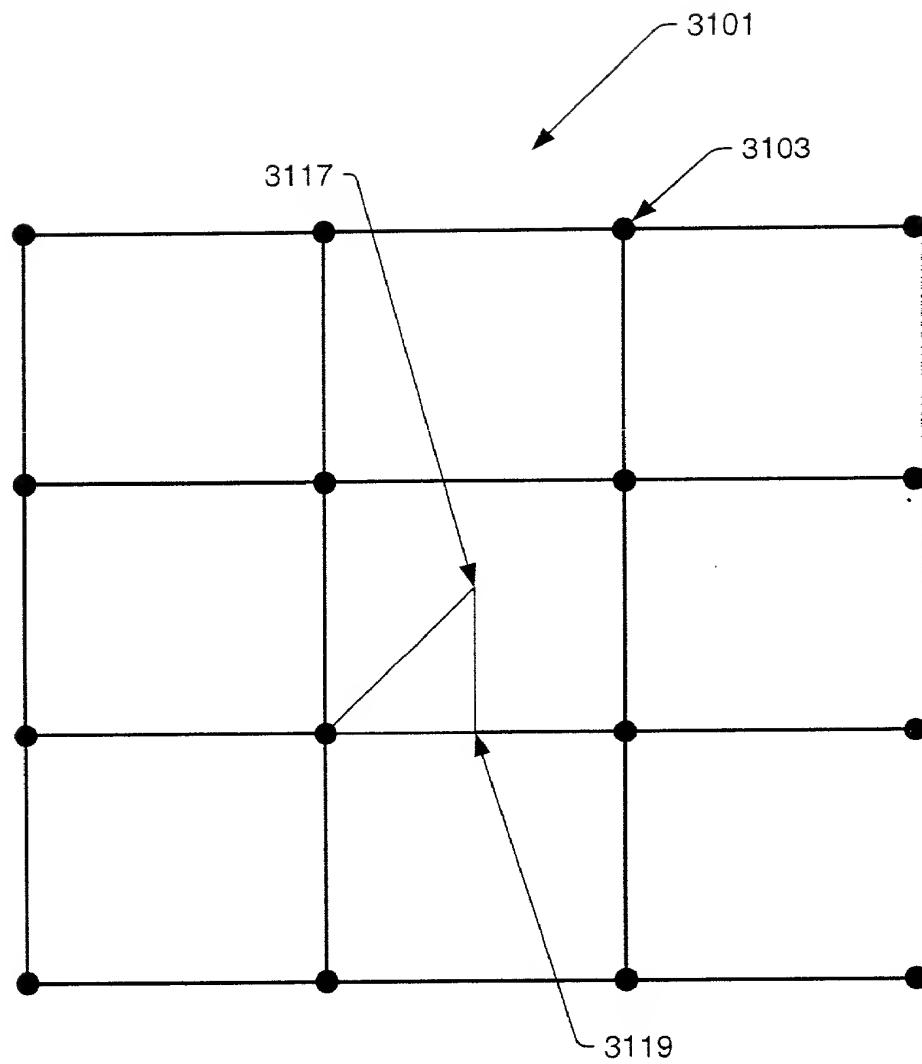


FIG. 76a

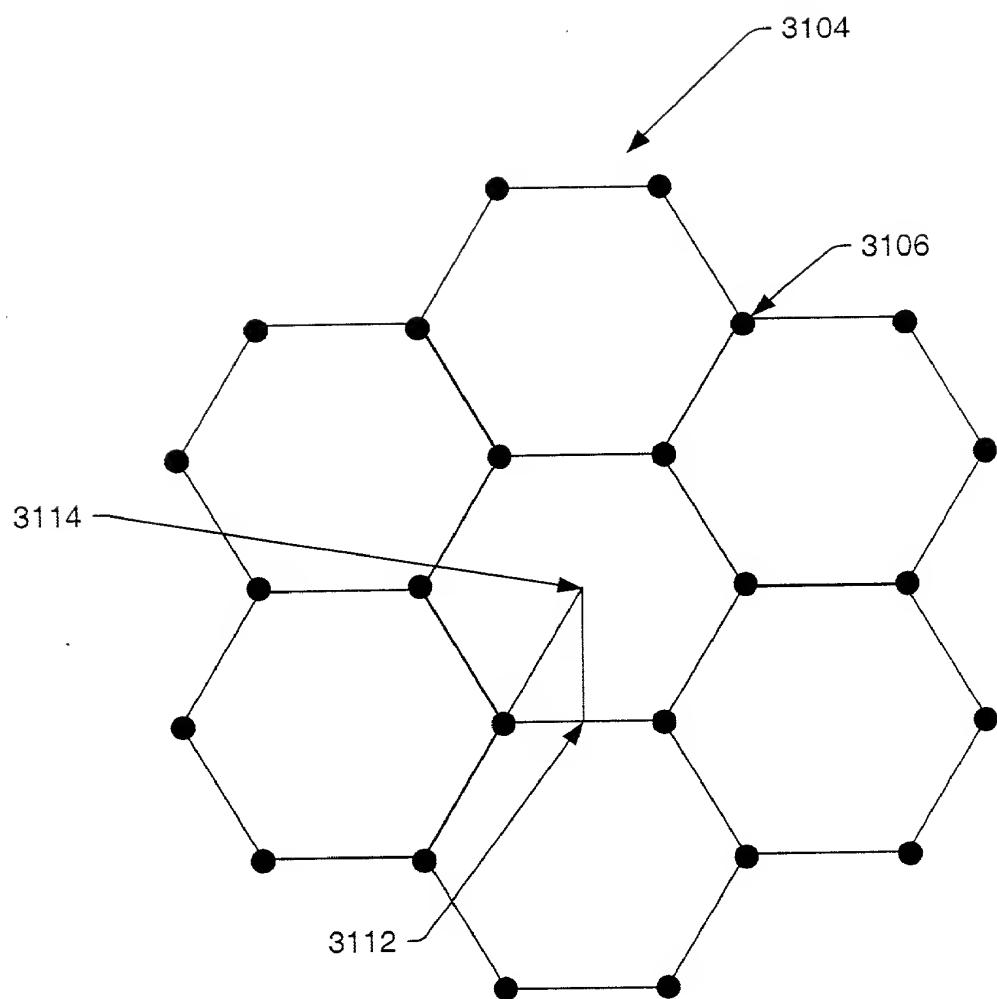


FIG. 77

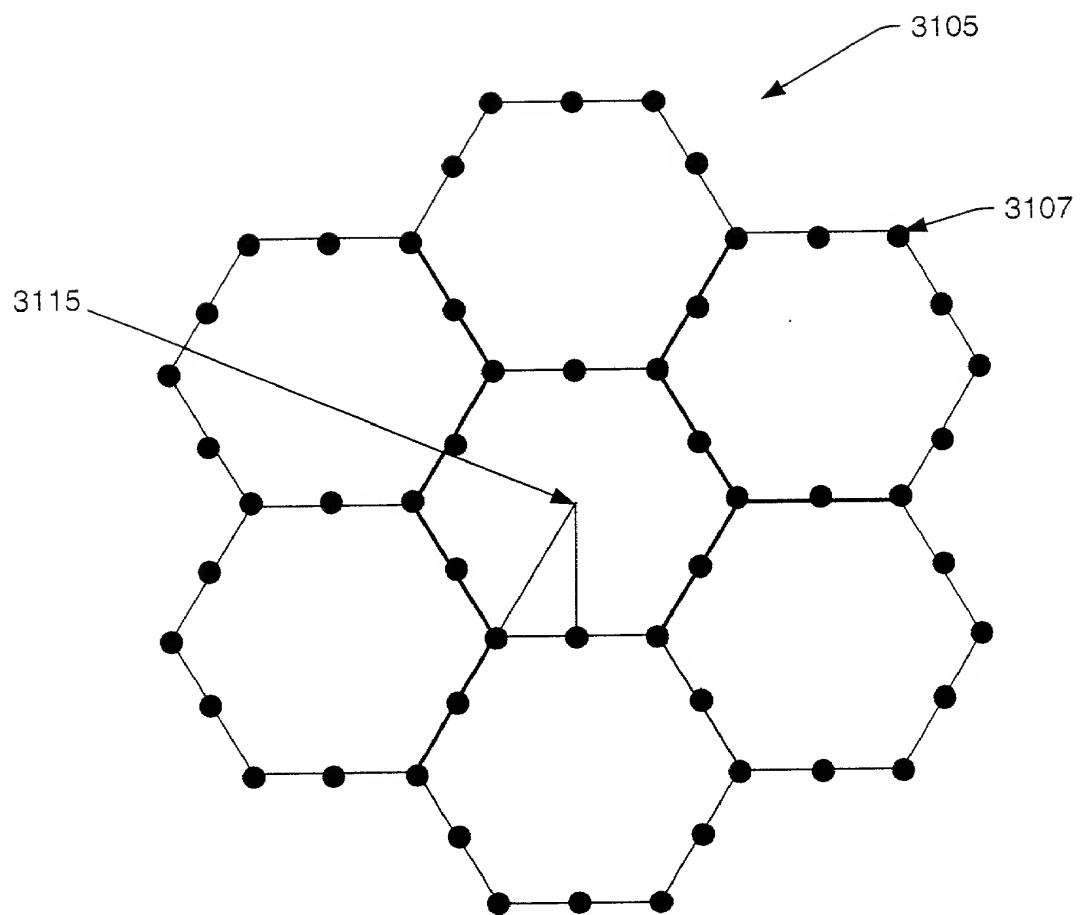


FIG. 77a

3110

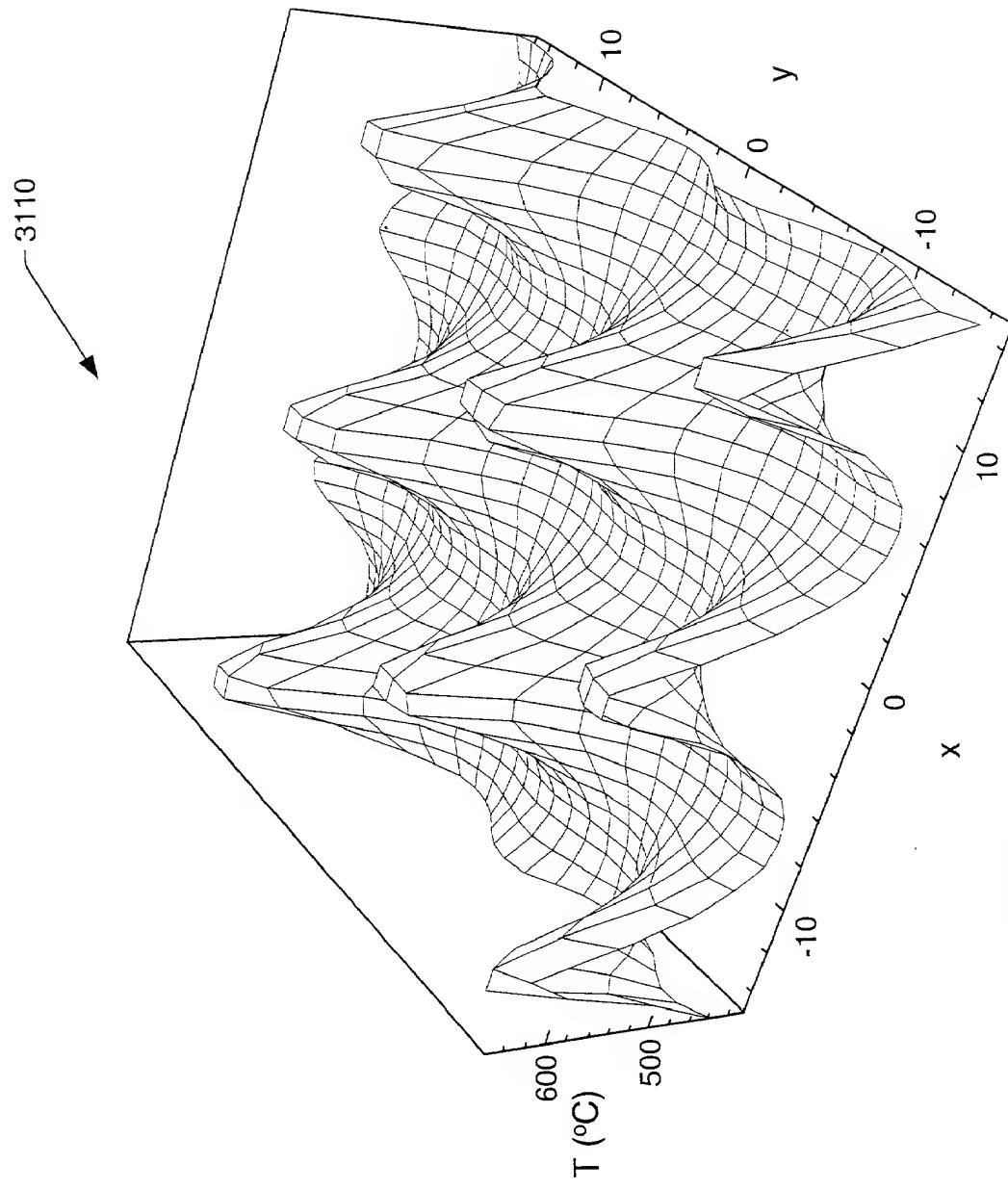


FIG. 78

3108

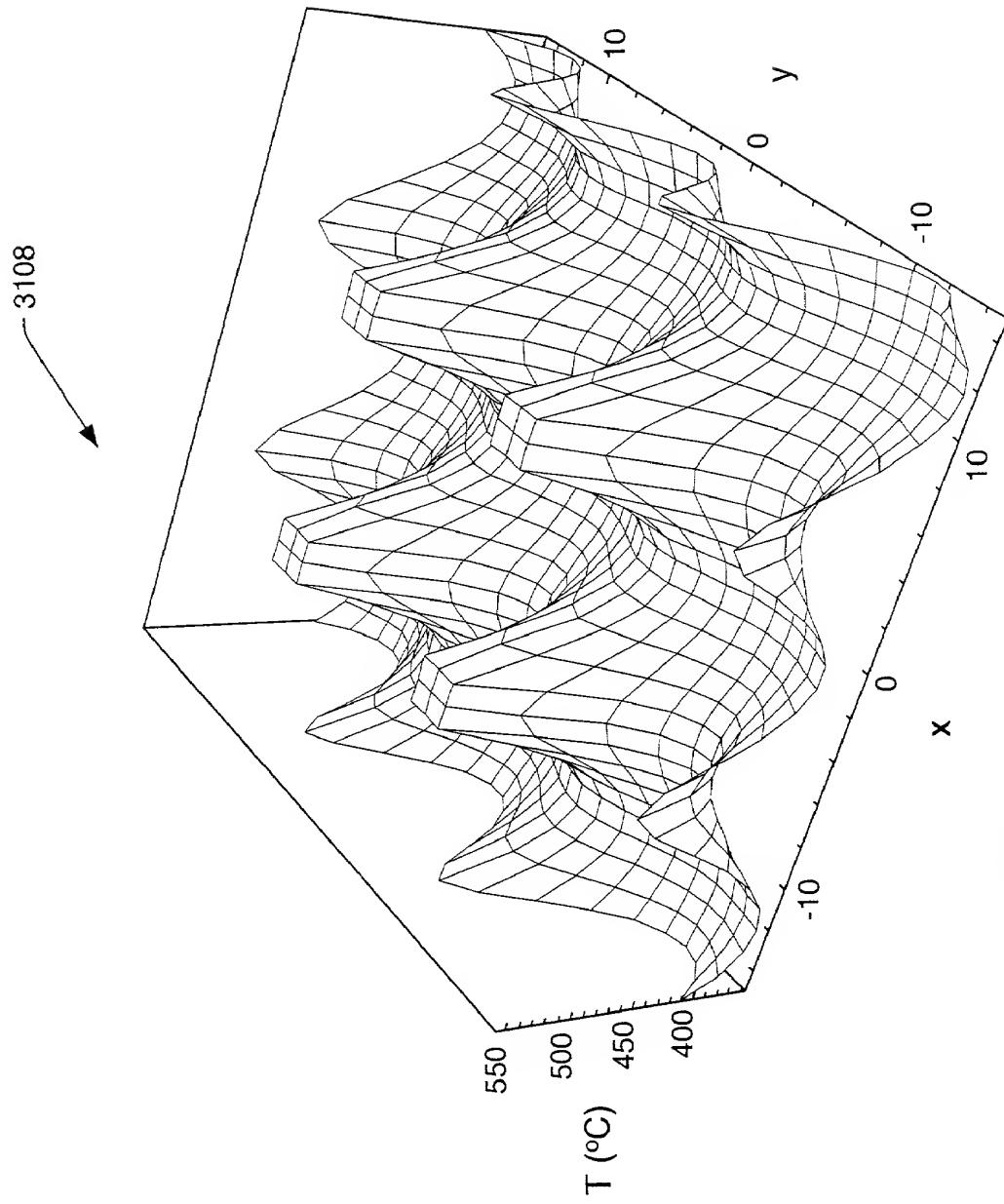


FIG. 79

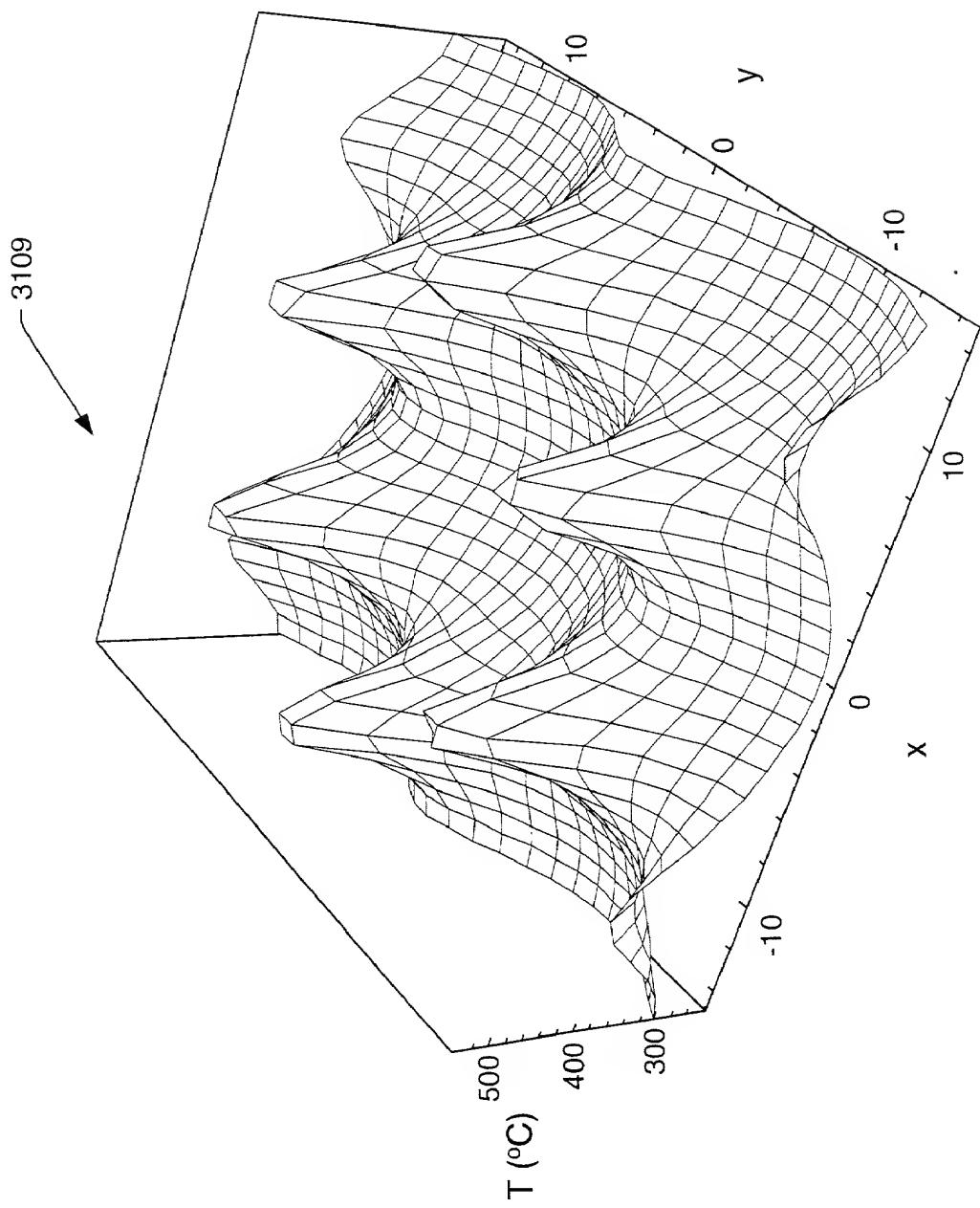


FIG. 79a

*FIG. 80*  
t (years)

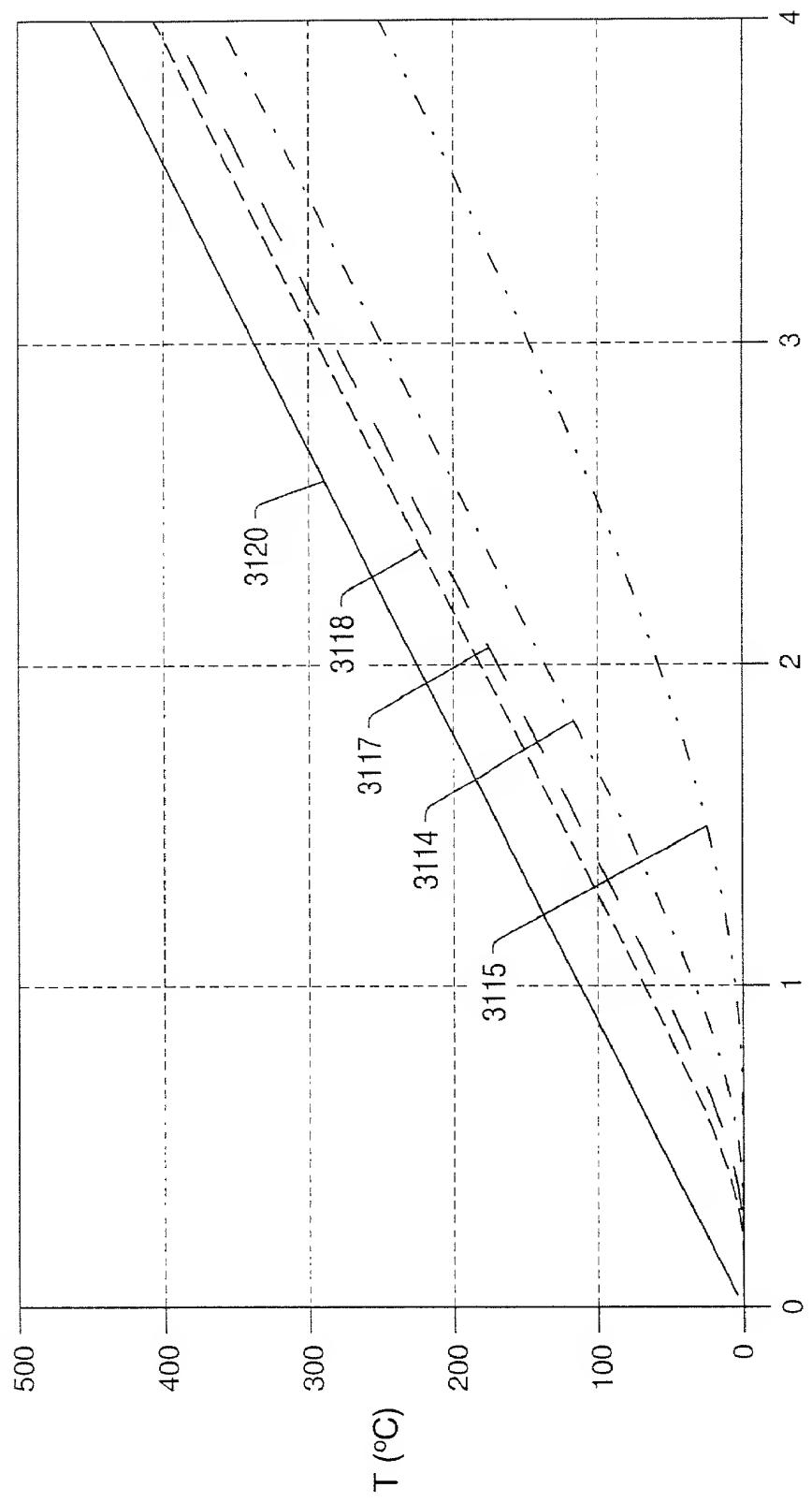
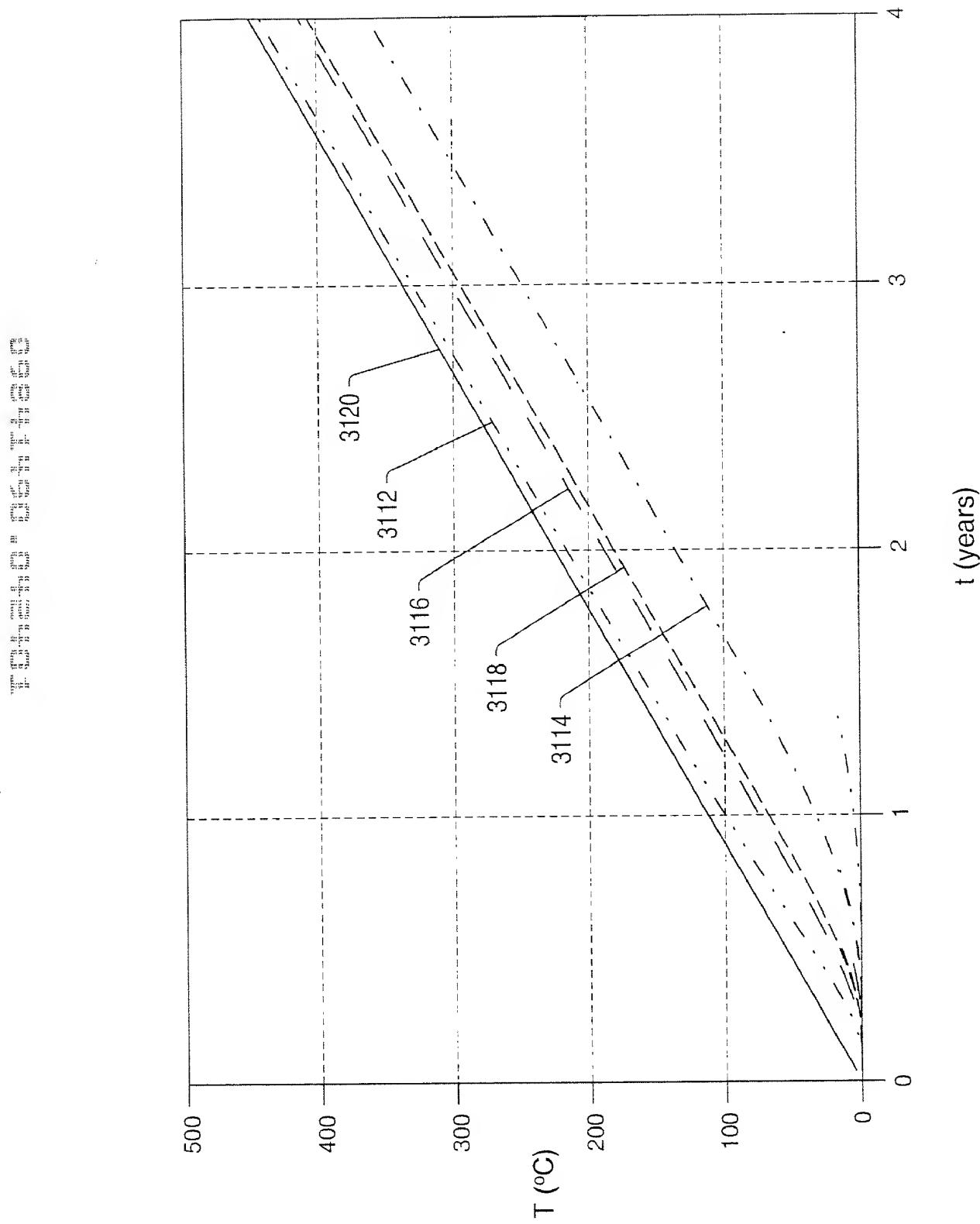


FIG. 81



3120 3119 3118

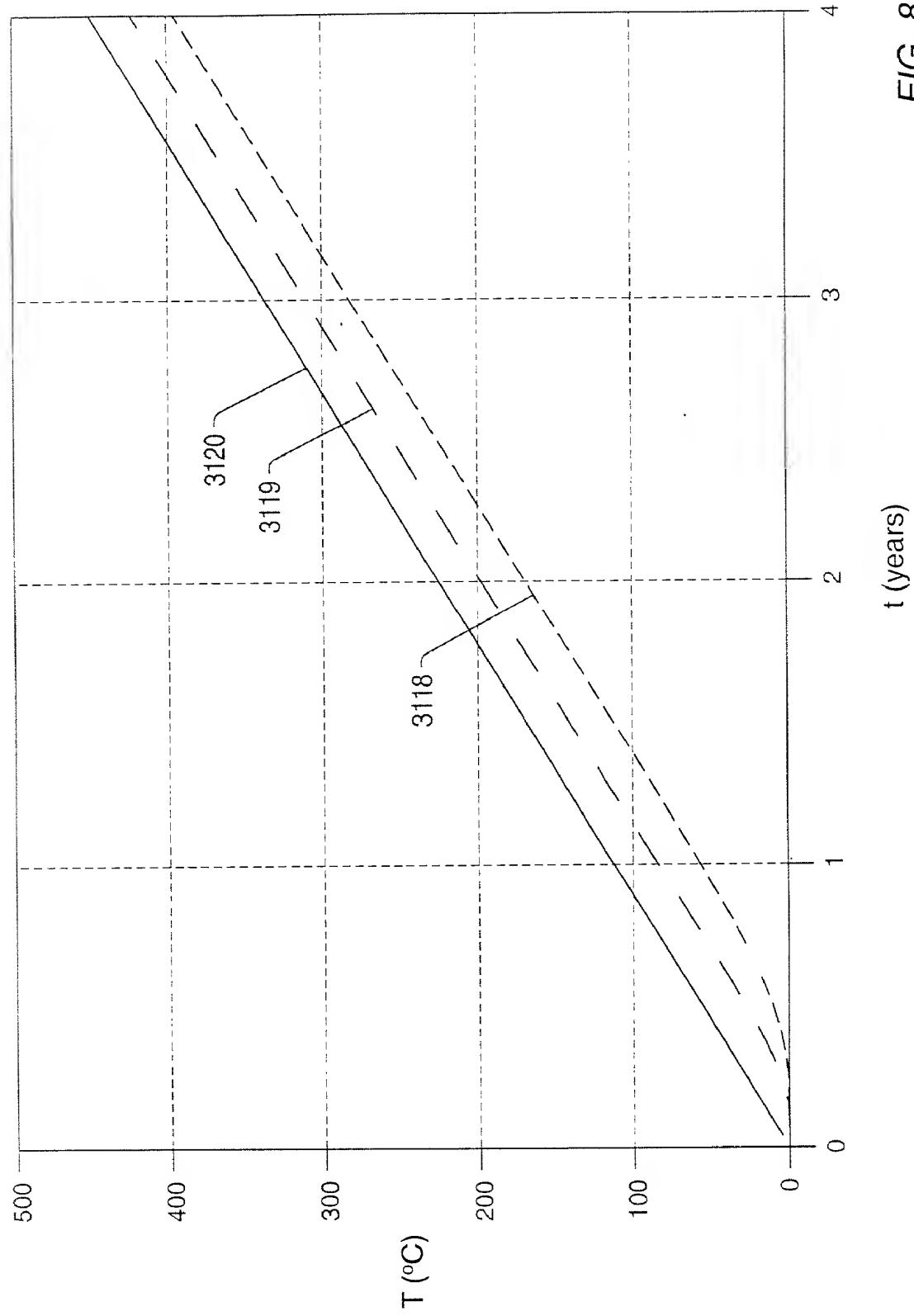


FIG. 81a  
 $t$  (years)

3120 3118 3117 3114

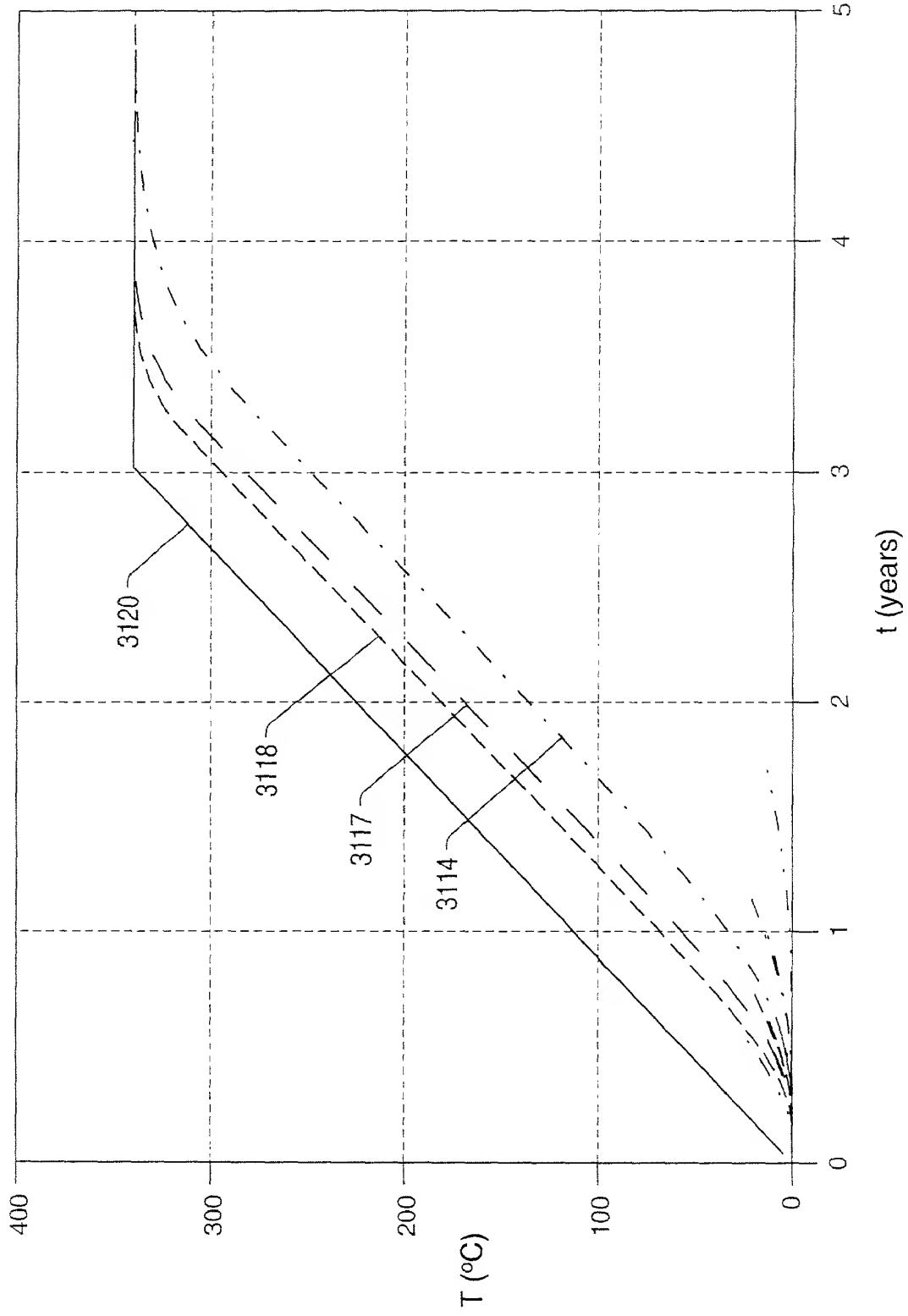


FIG. 81b

FIG. 82

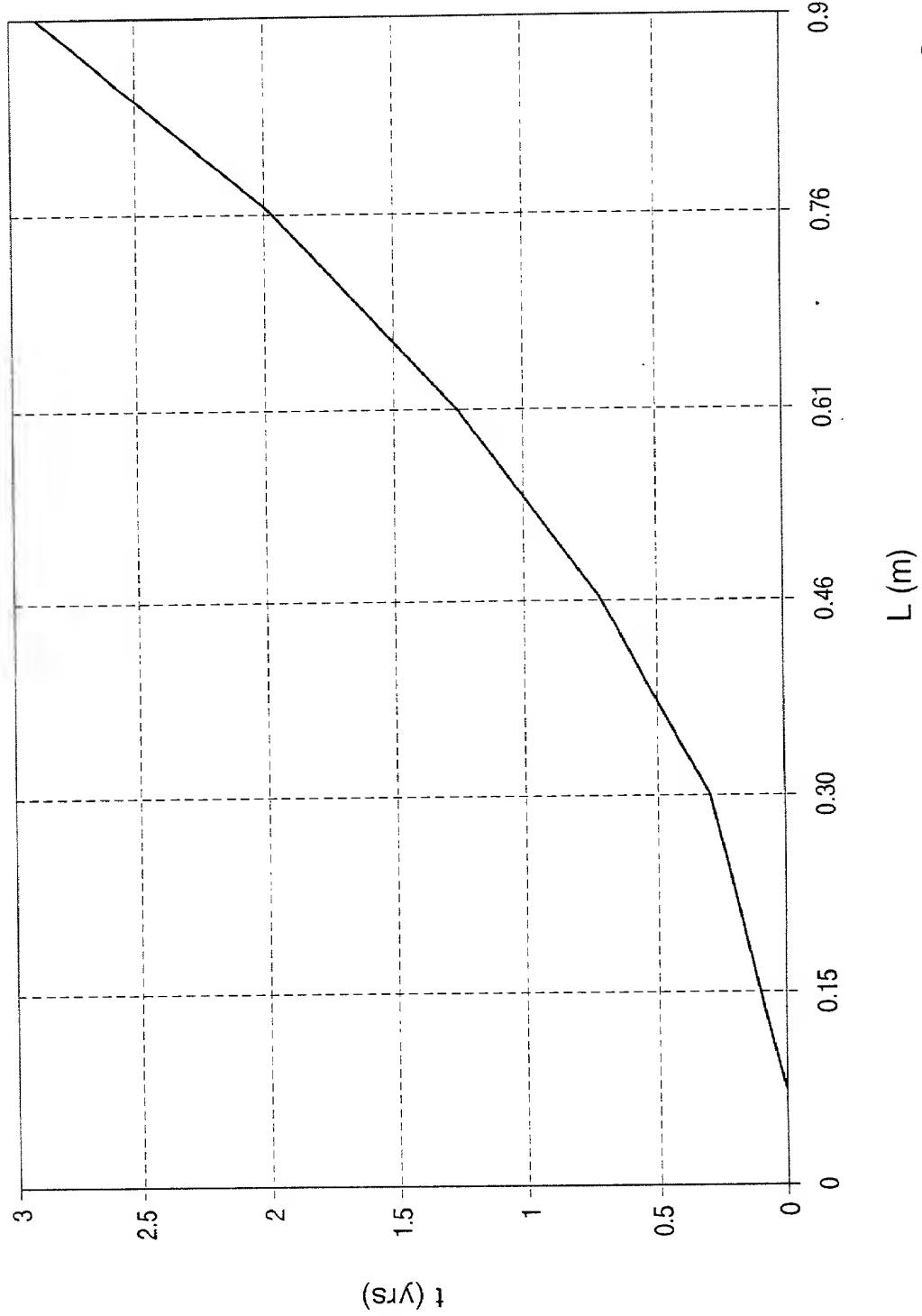


FIG. 83

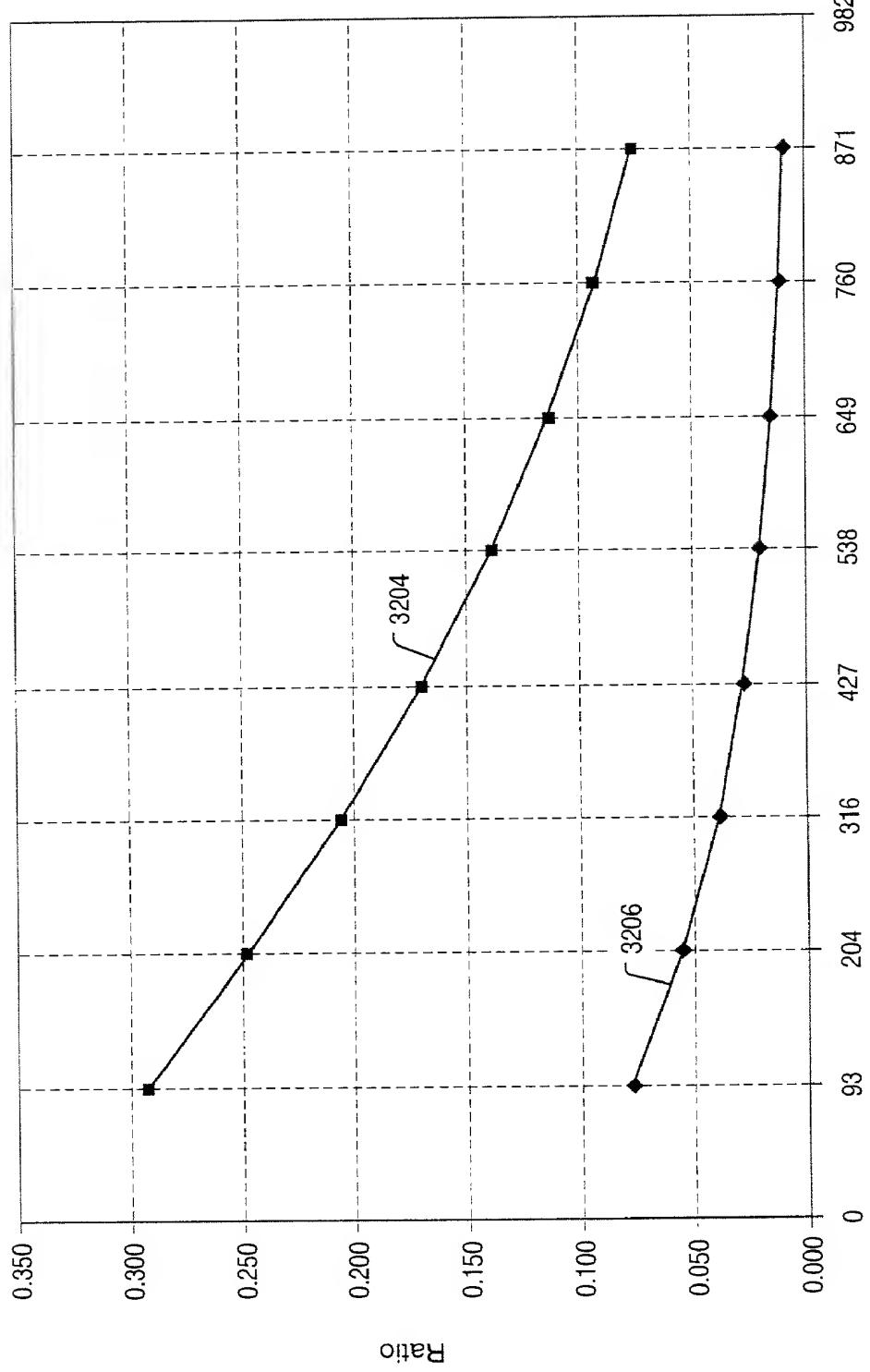


FIG. 84

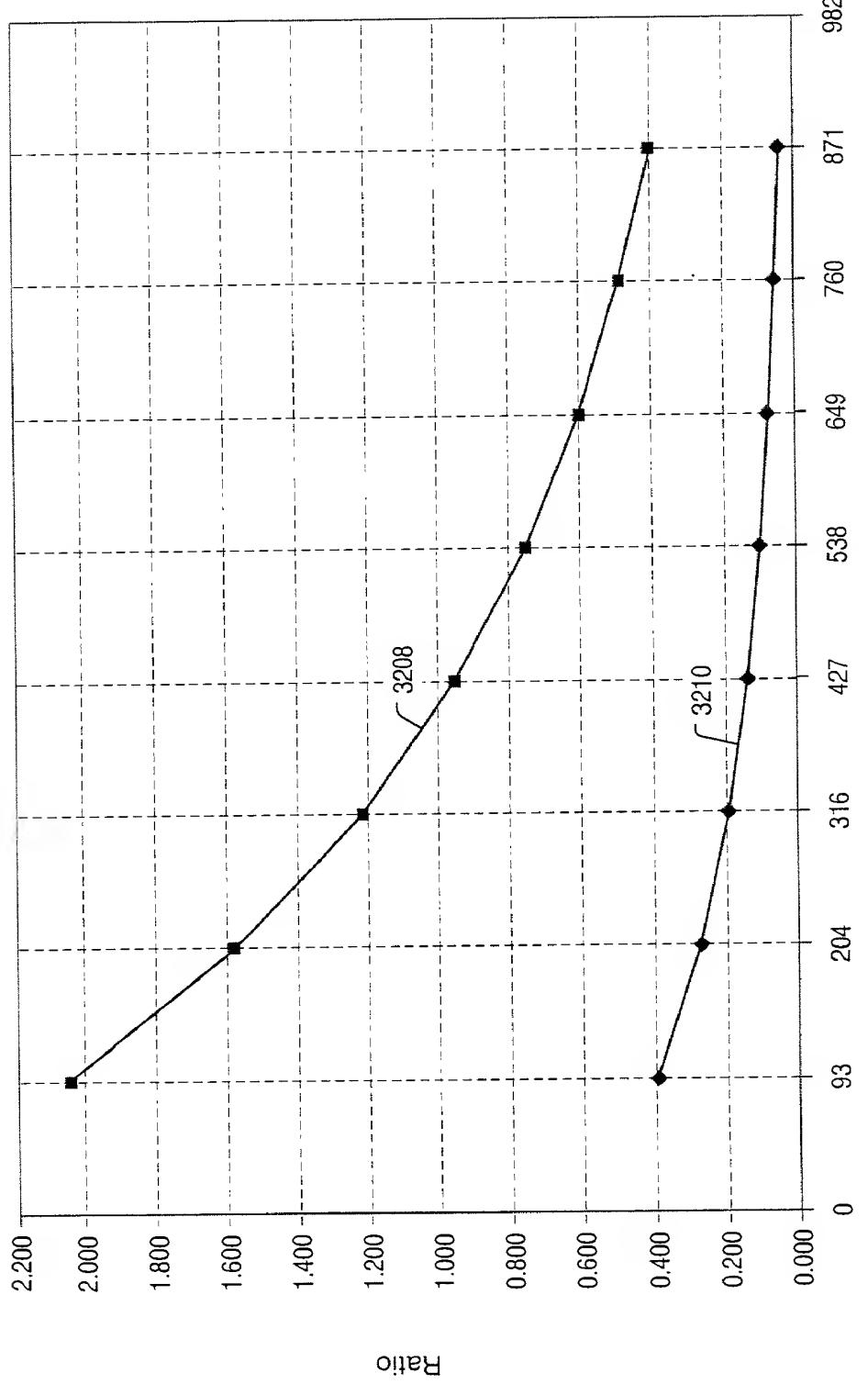


Fig. 85  
Fig. 86  
Fig. 87  
Fig. 88

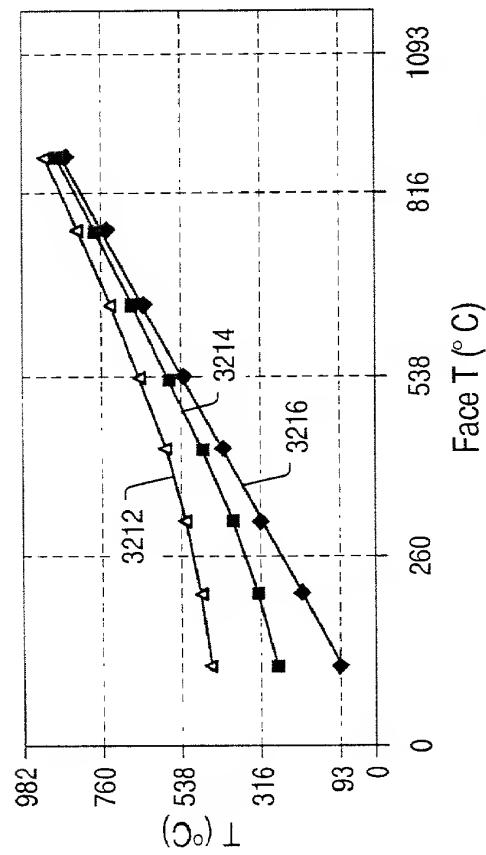


FIG. 85

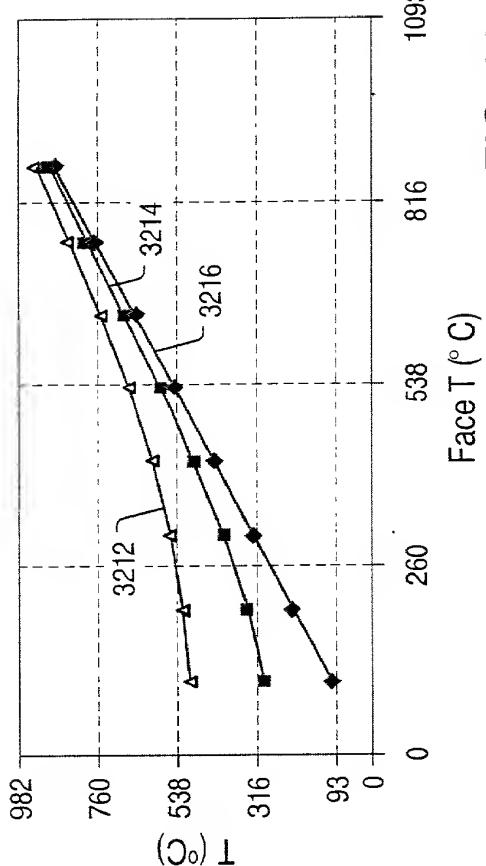


FIG. 86

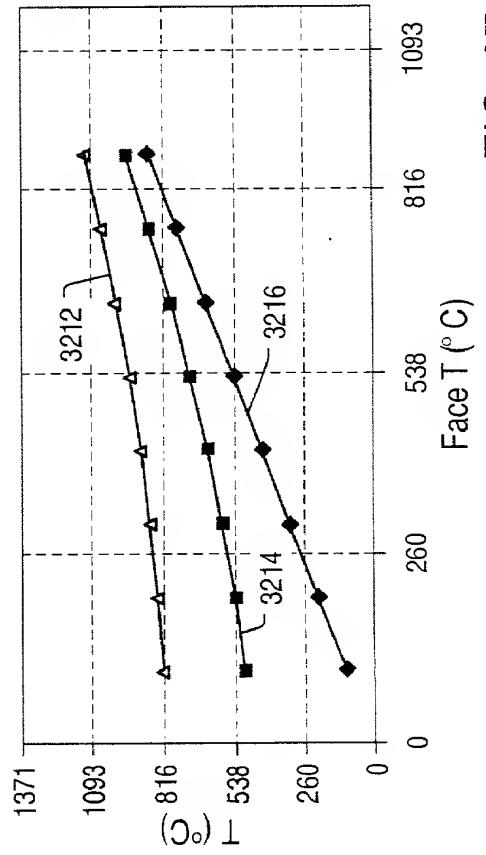


FIG. 87

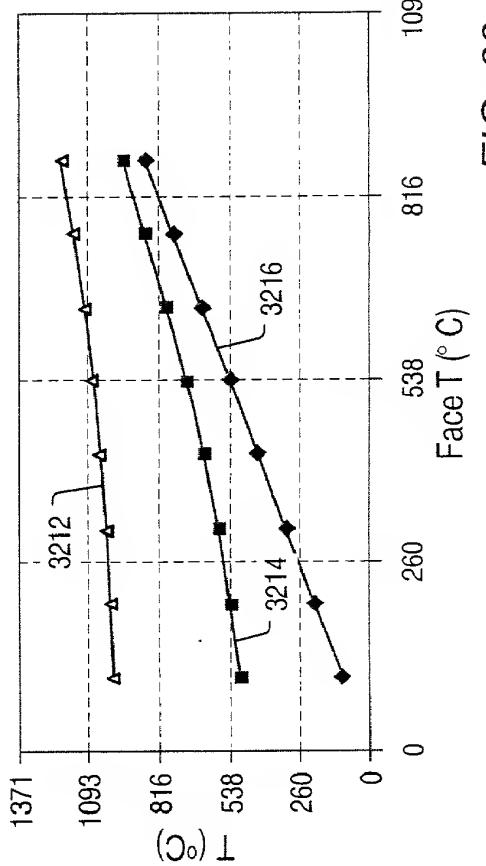
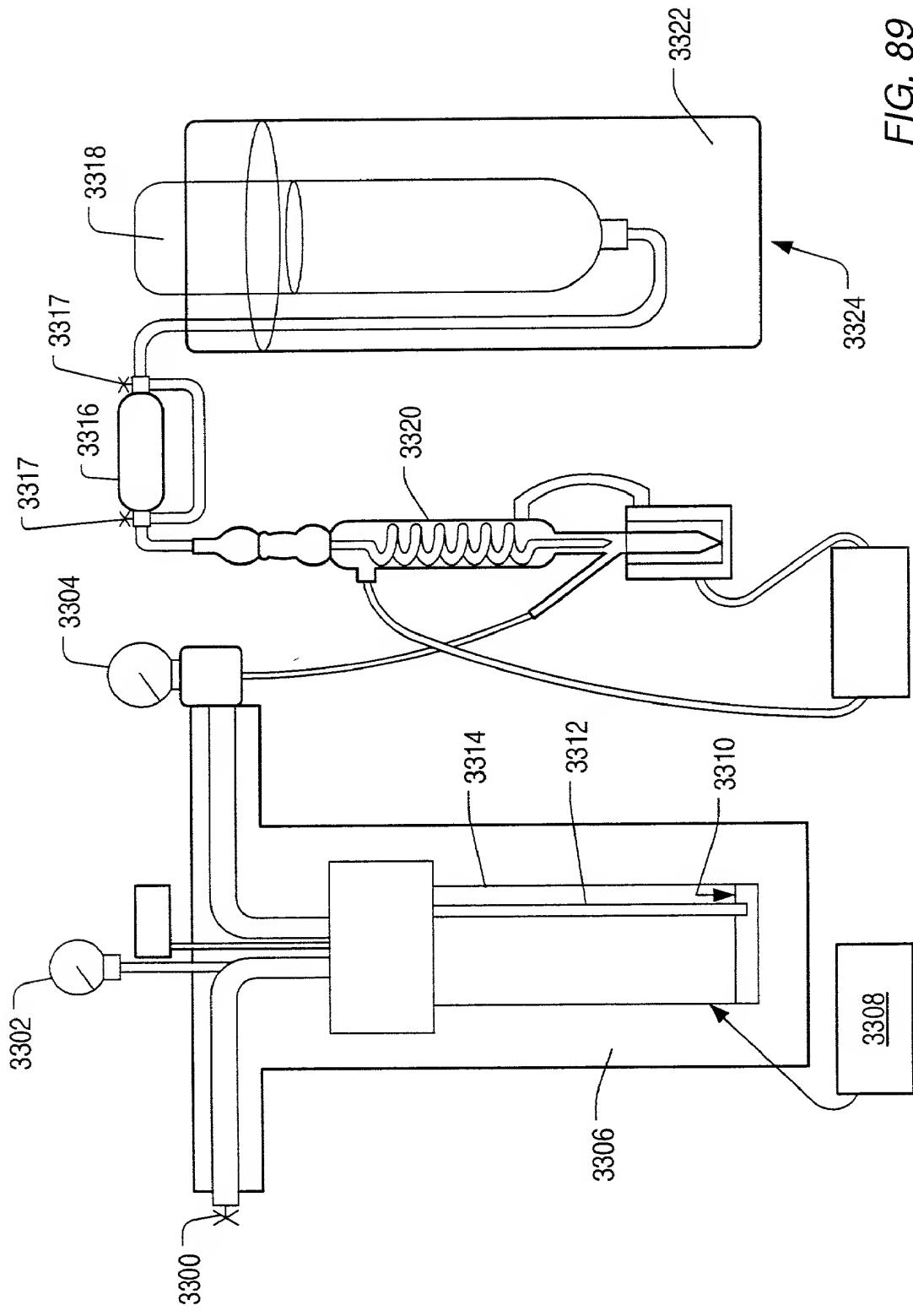


FIG. 88

*FIG. 89*



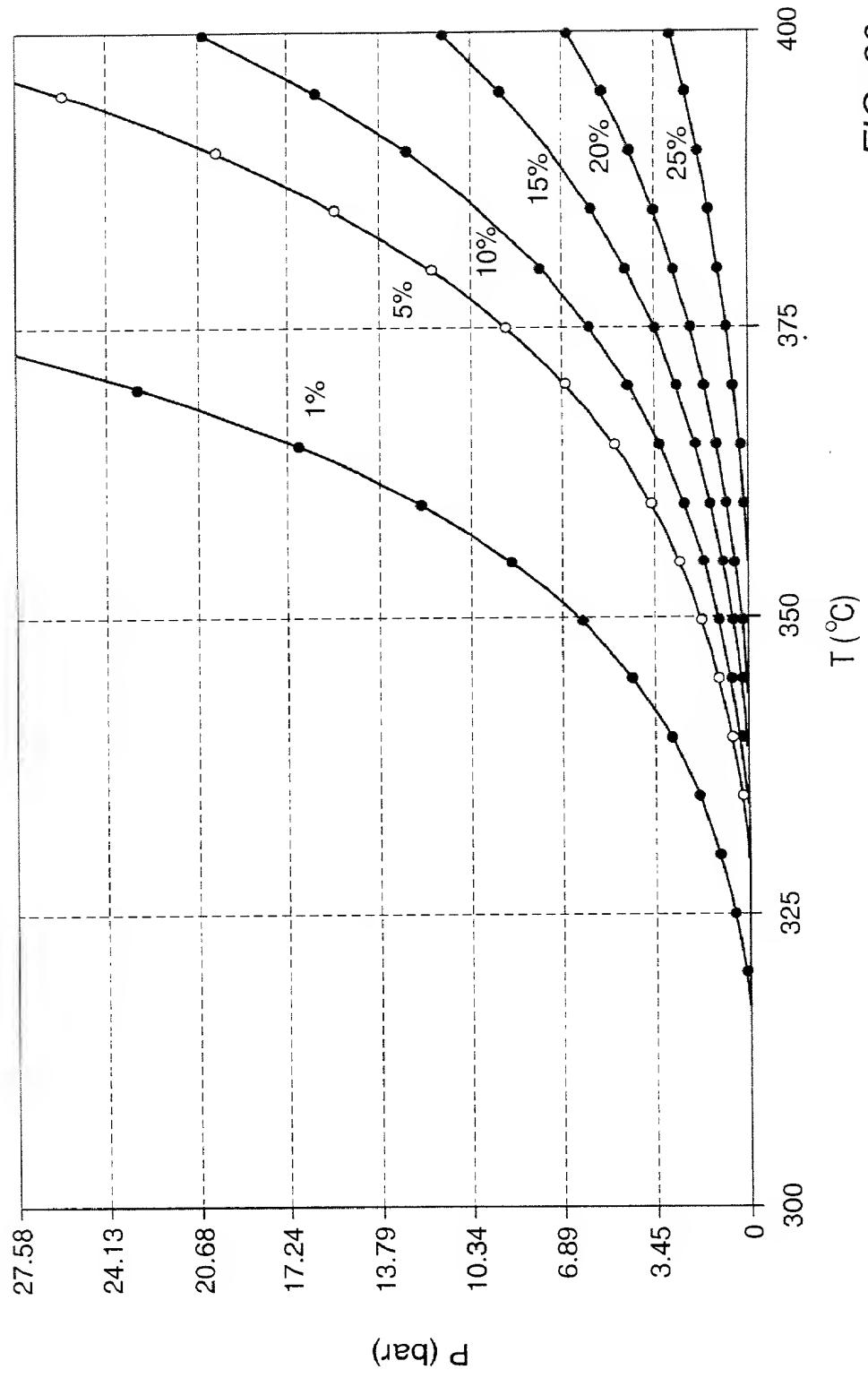
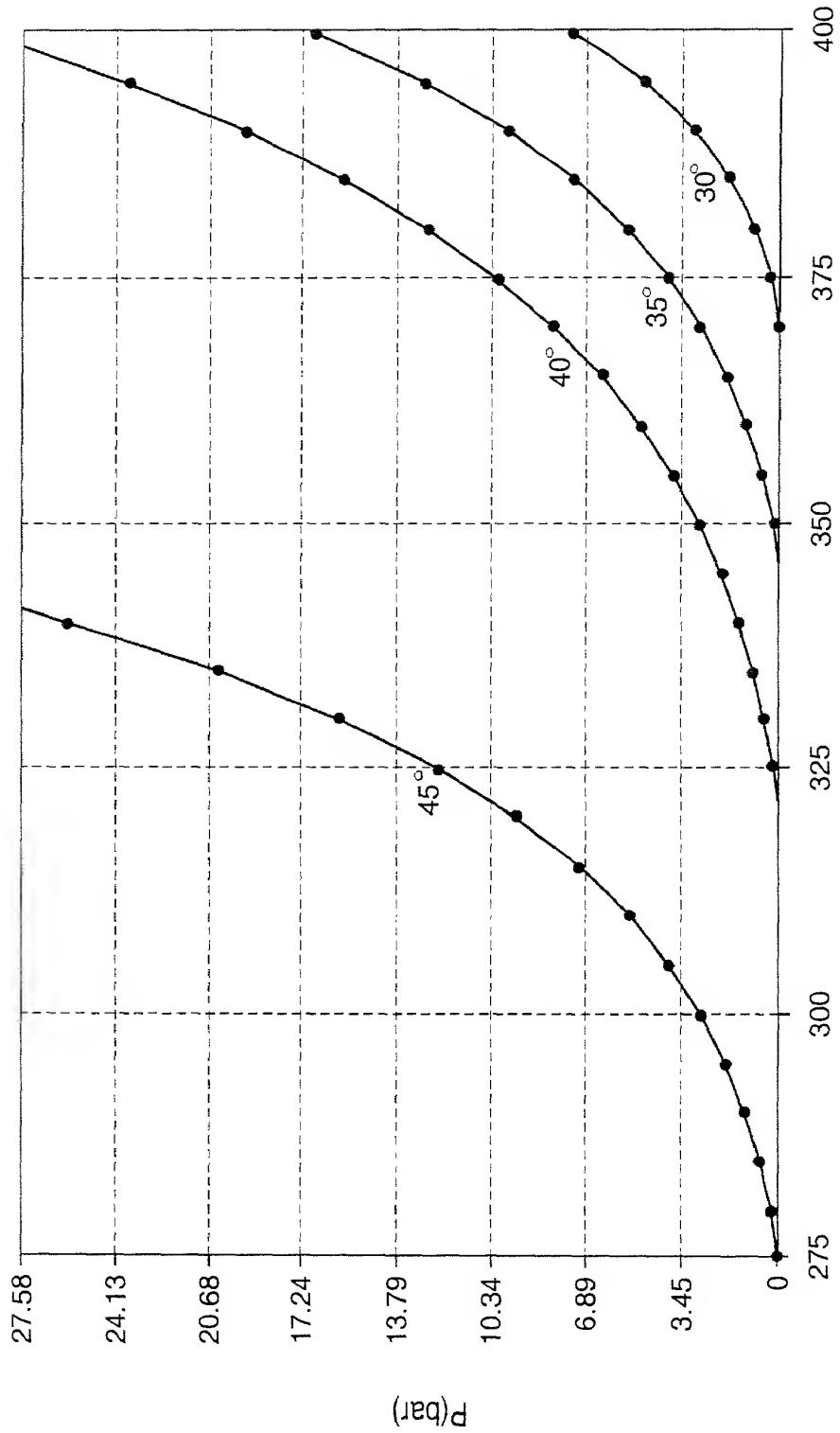


FIG. 90

FIG. 91



27.58  
24.13  
20.68  
17.24  
13.79  
10.34  
6.89  
3.45

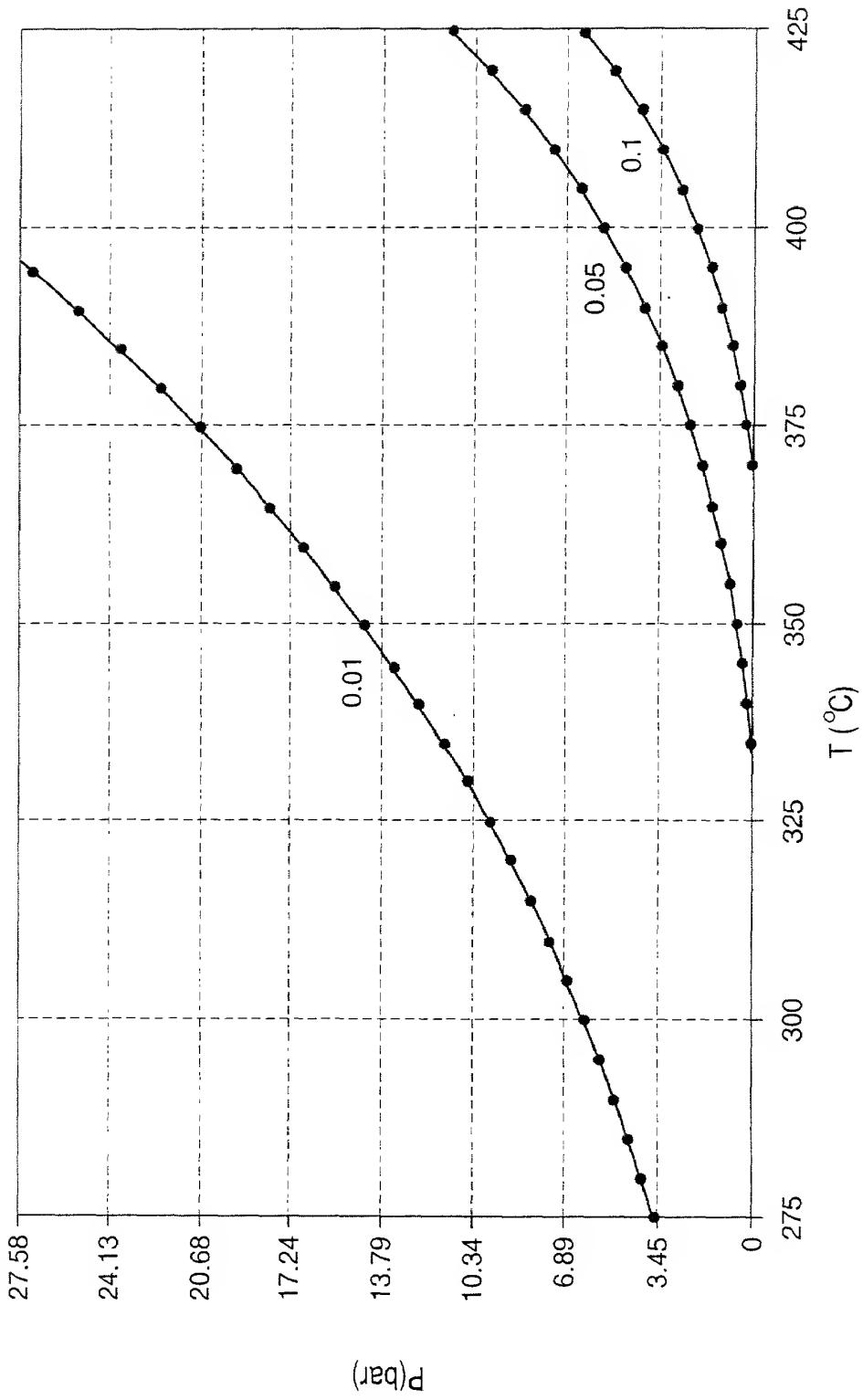


FIG. 92

FIG. 93

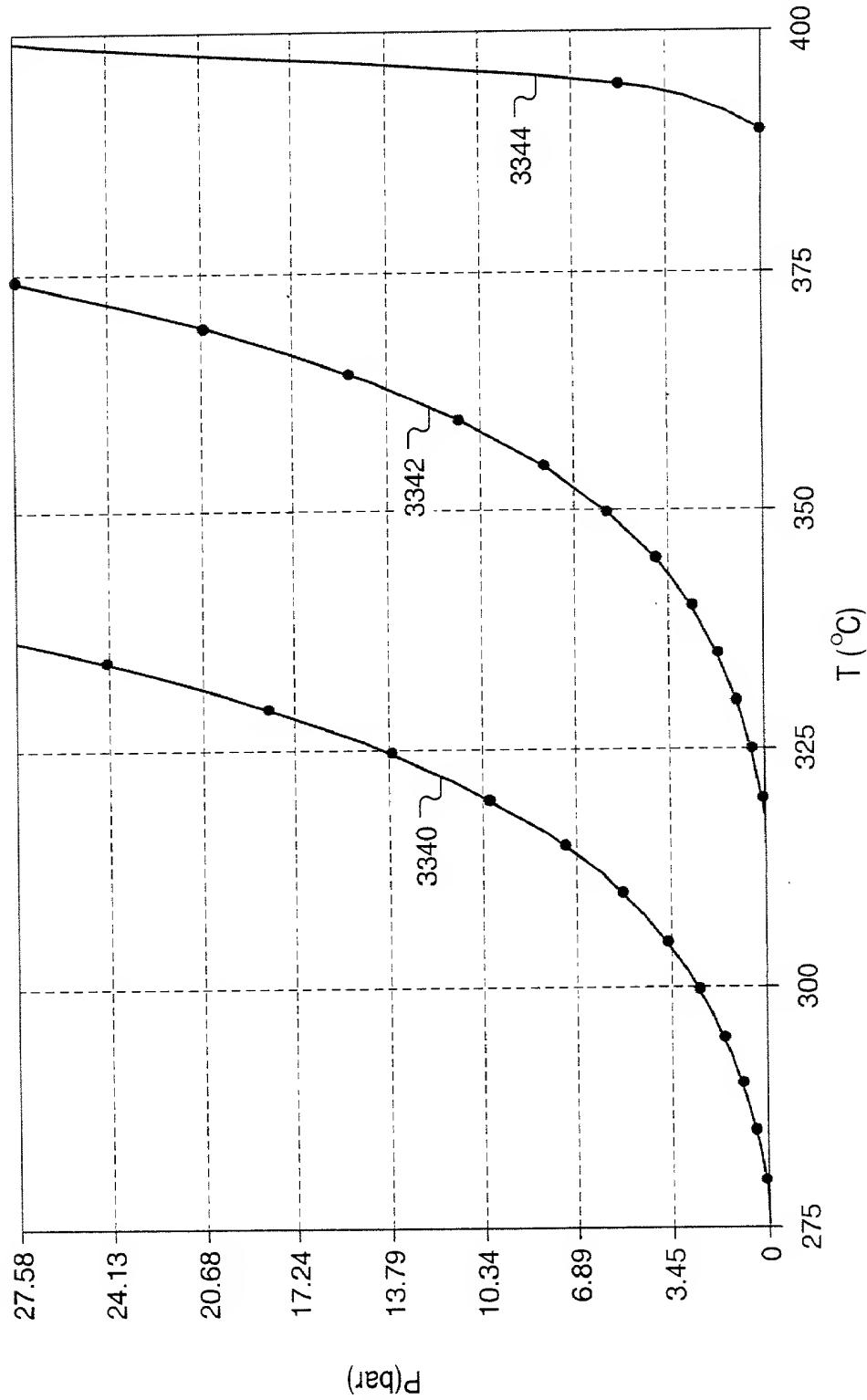


FIG. 94

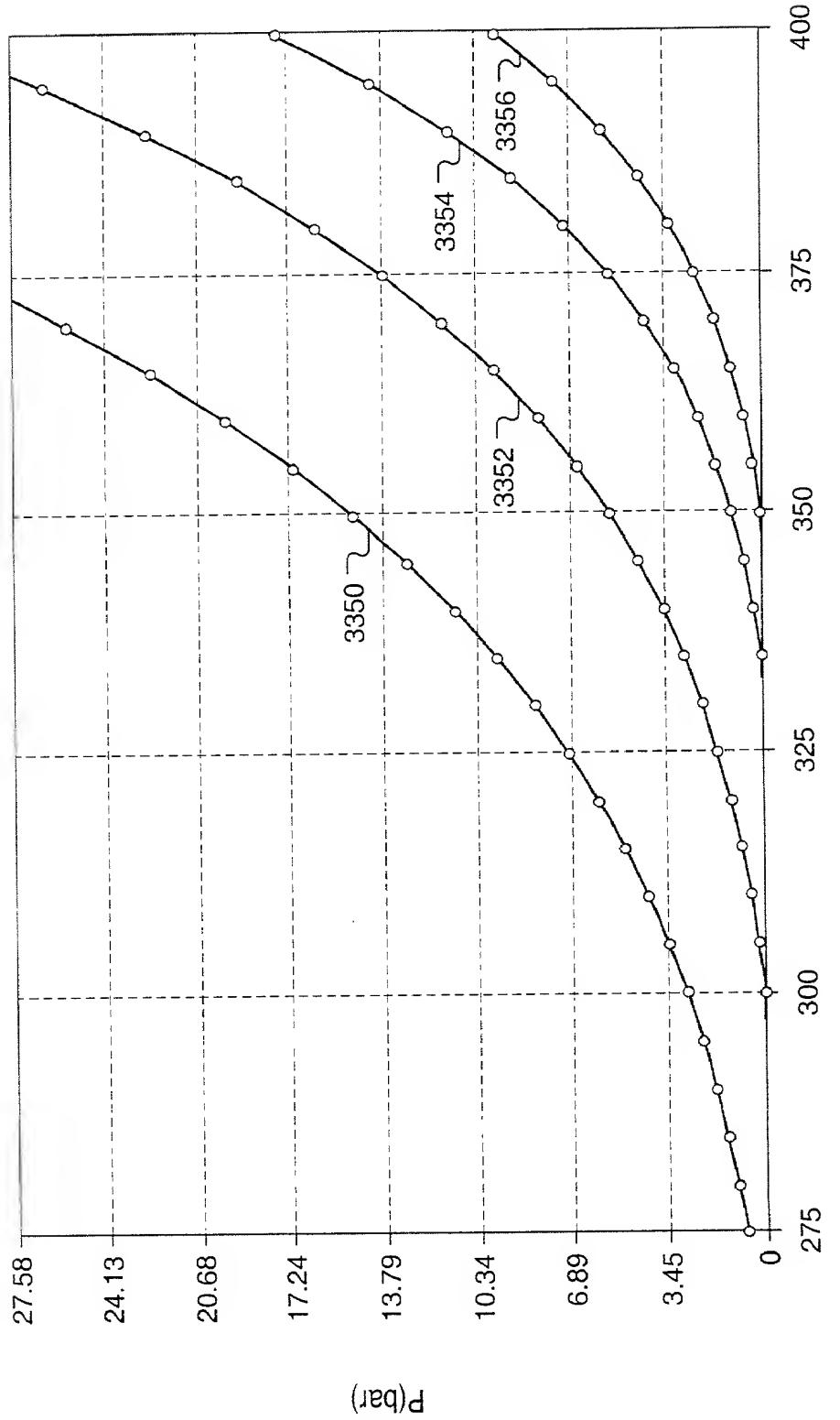


FIG. 95

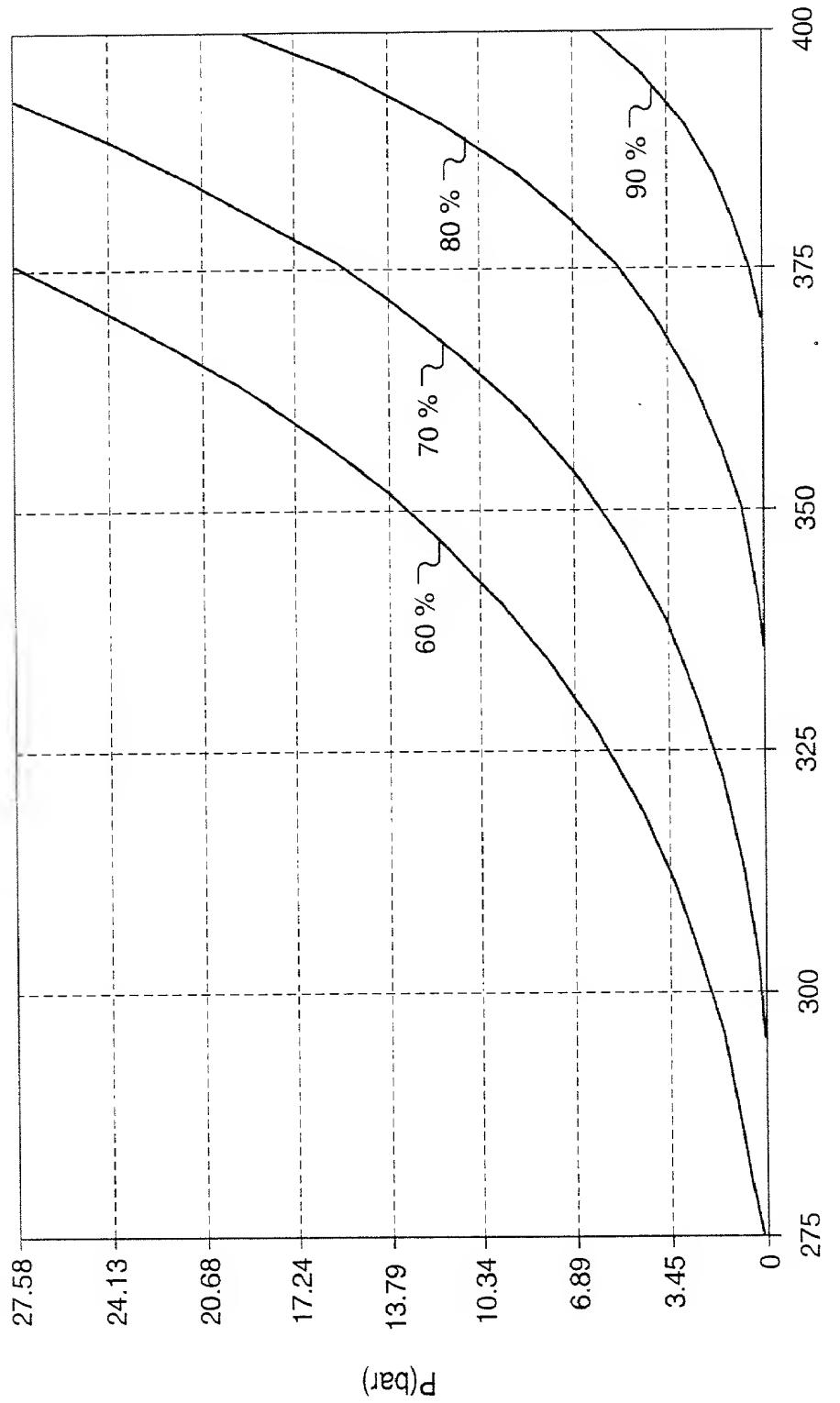
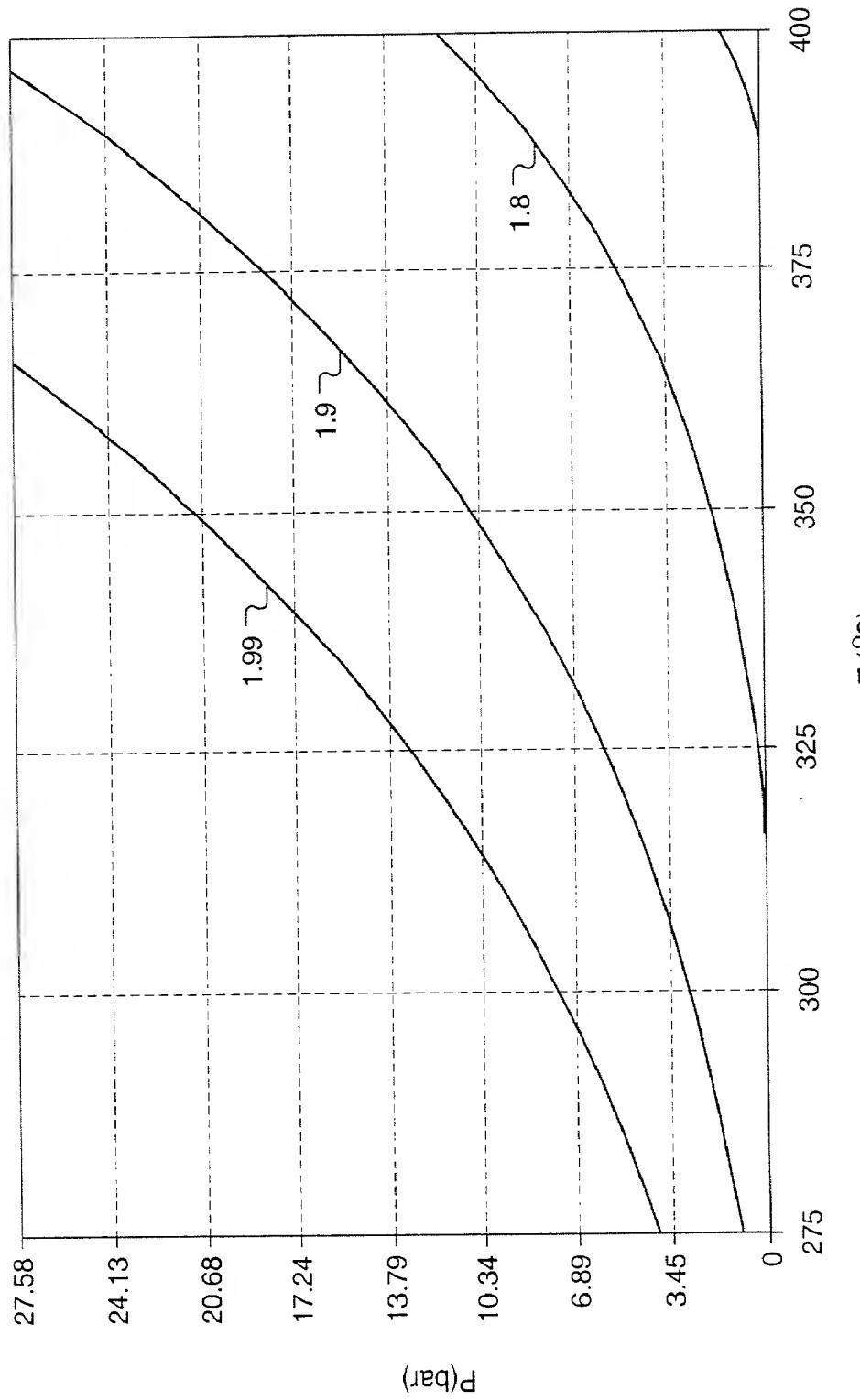


FIG. 96



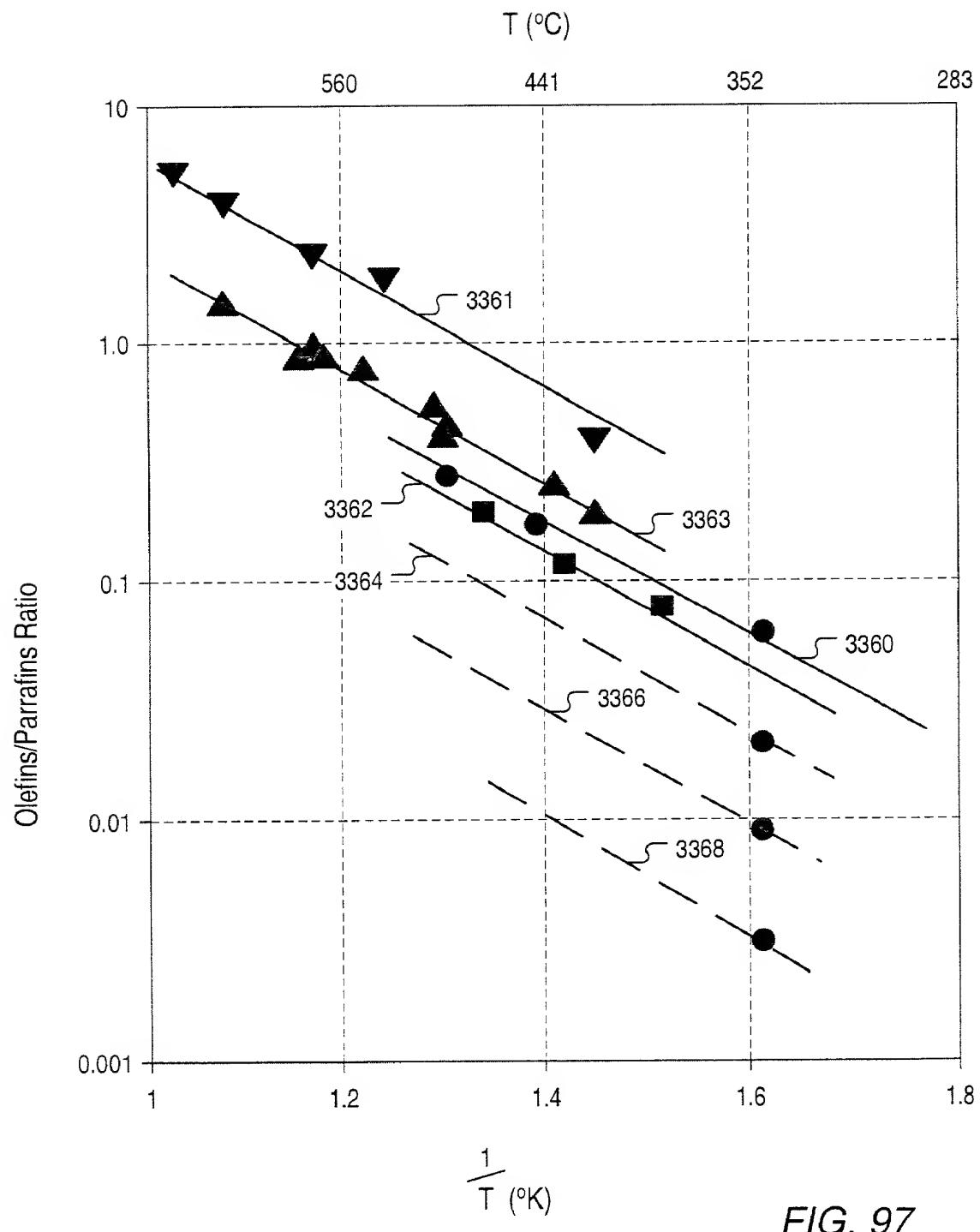
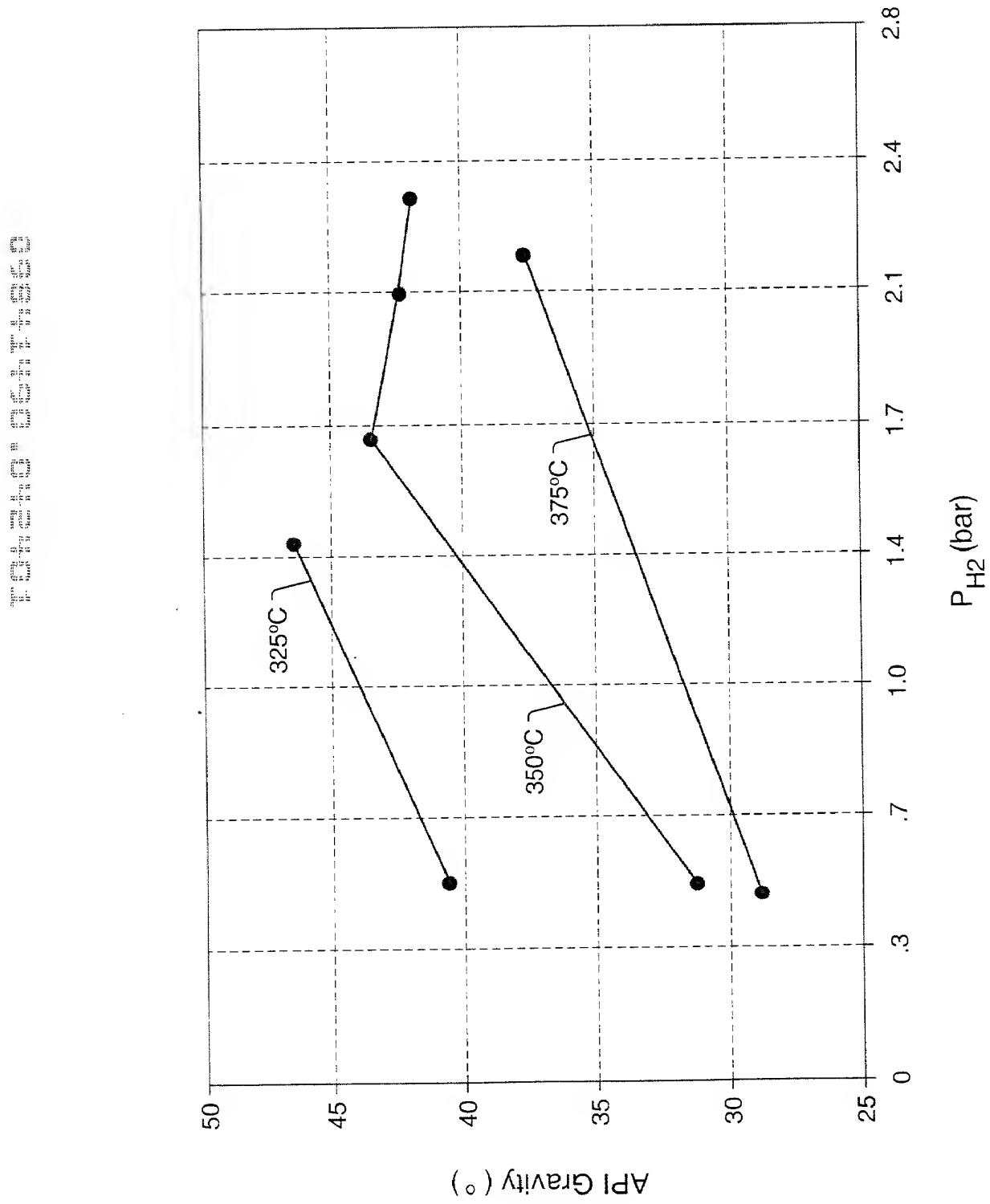


FIG. 97

FIG. 98



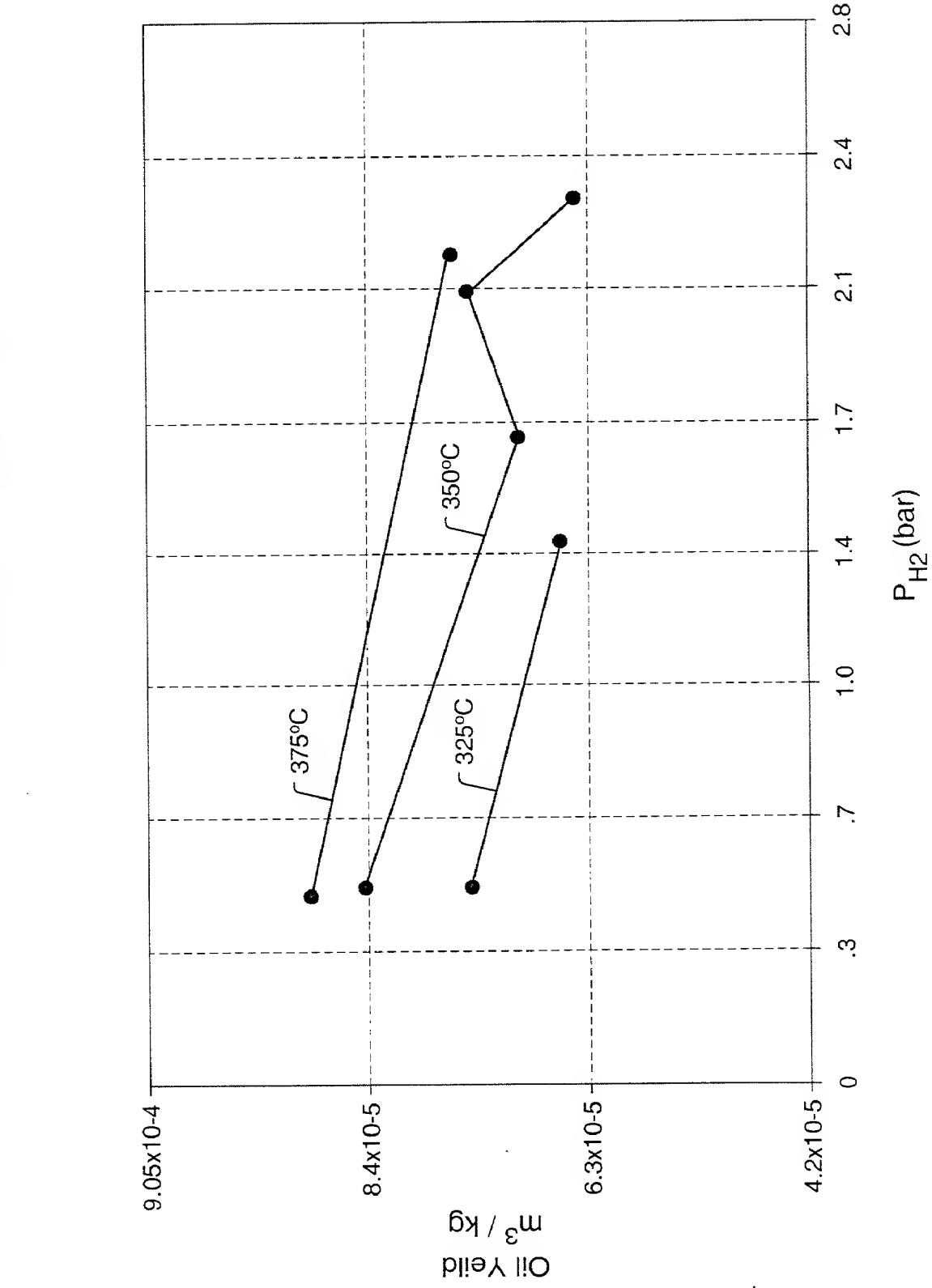


FIG. 99

*FIG. 100*

Ethene / Ethane Ratio

$P_{H_2}$  (bar)

$P_{H_2}$ (bar)	Ethene / Ethane Ratio (325°C)	Ethene / Ethane Ratio (350°C)	Ethene / Ethane Ratio (375°C)
0.01	0.04	0.01	0.00
0.02	0.01	0.02	0.04
0.04	0.00	0.04	0.08
0.07	0.08	0.07	0.11
0.10	0.11	0.10	-

equilibrium conditions. The equilibrium condition is defined as the condition where the partial pressure of each component in the system is equal to its standard partial pressure.

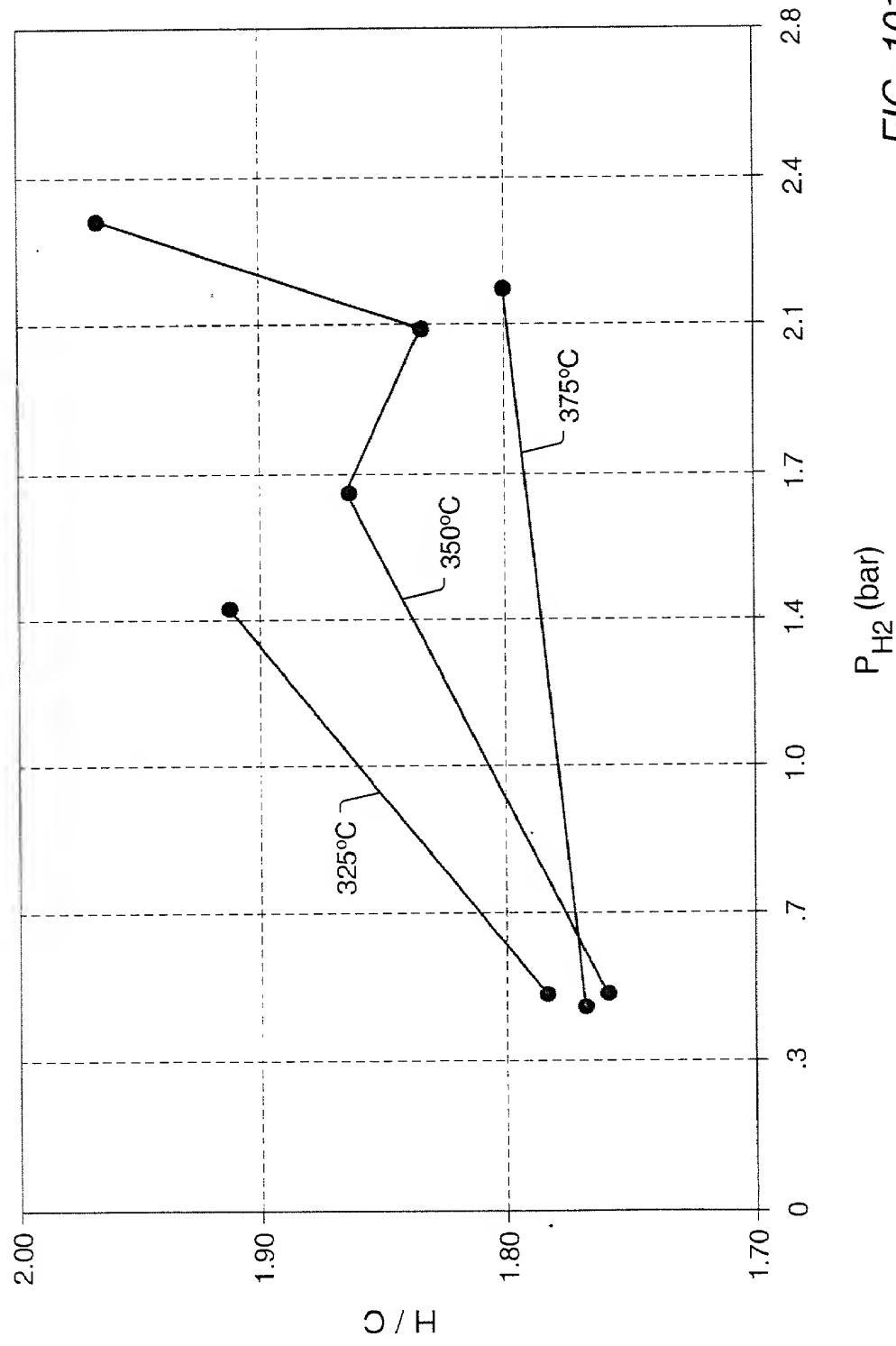


FIG. 101

FIG. 102

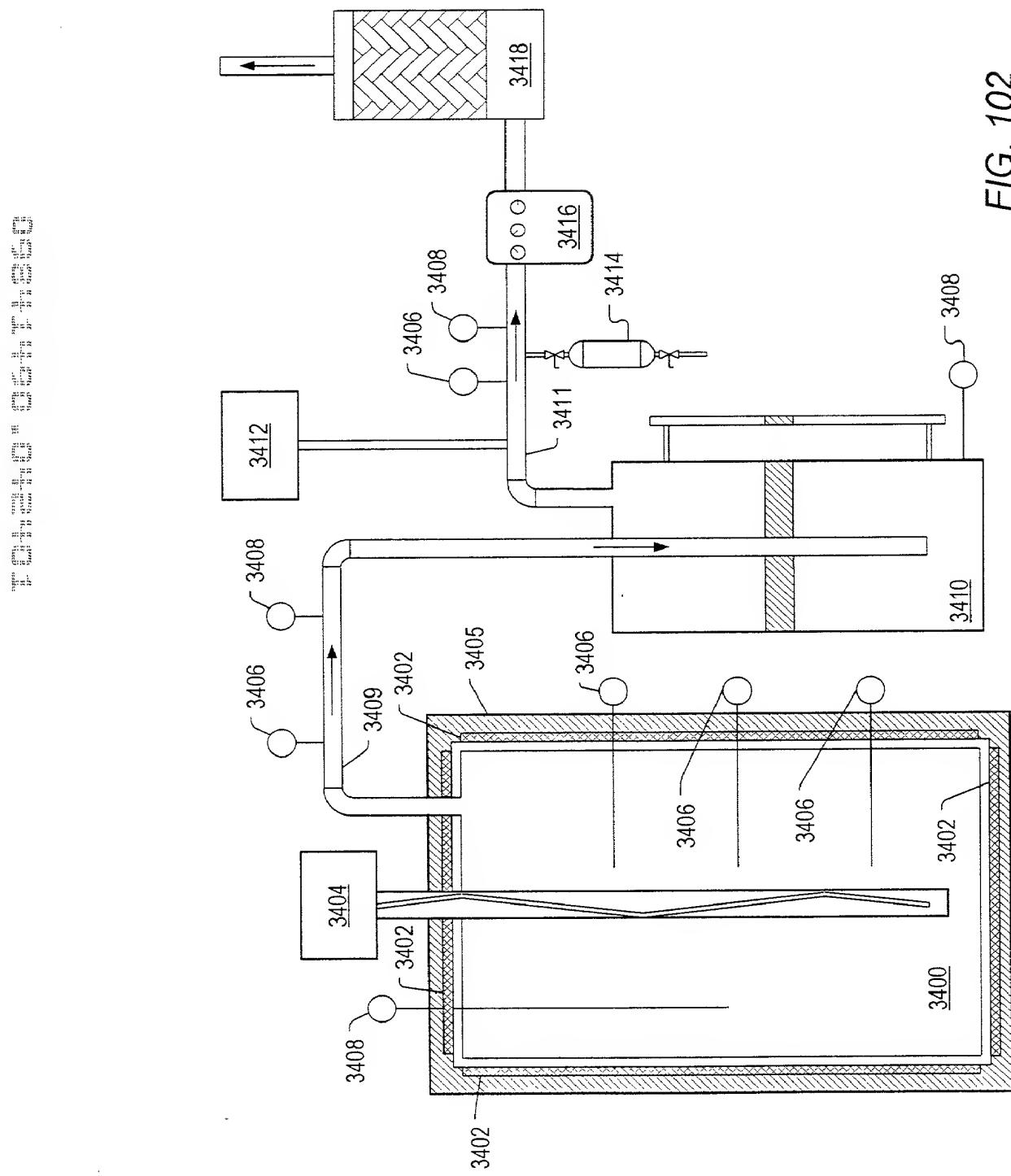
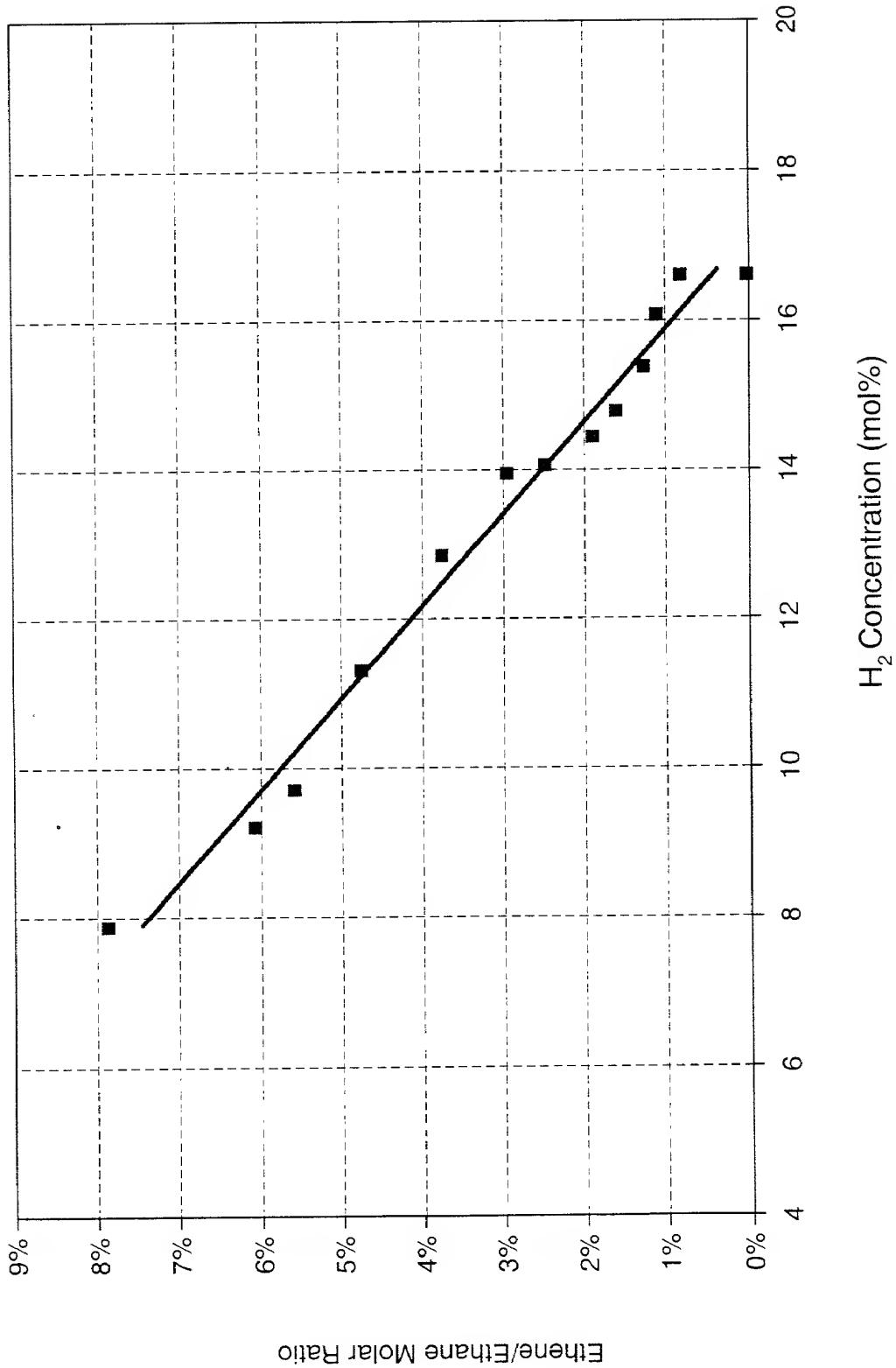
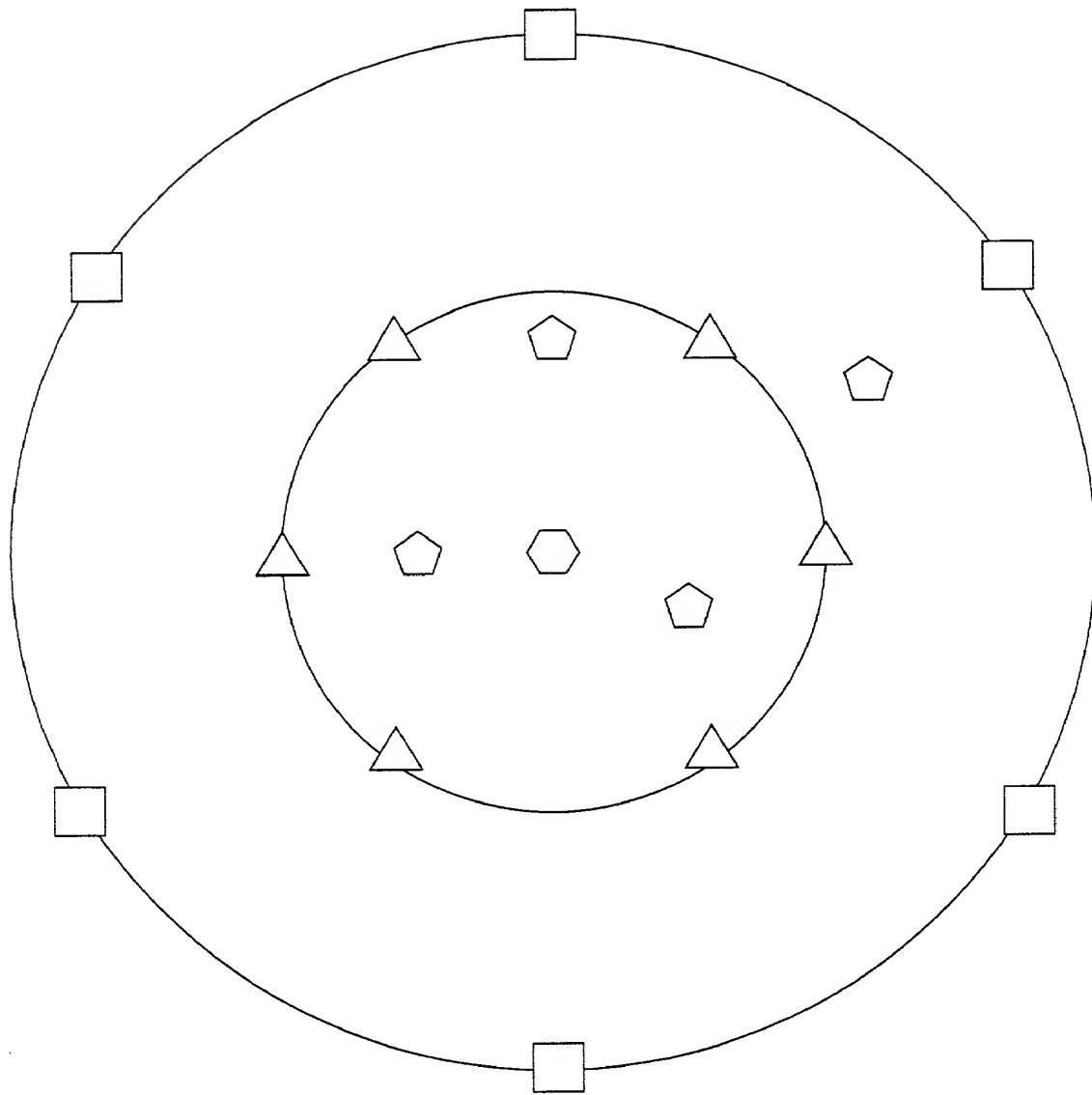


FIG. 103





△ - 3600

◇ - 3603

□ - 3604

○ - 3602

FIG. 104

3604 3606 3600 3602 3610 3612 3614

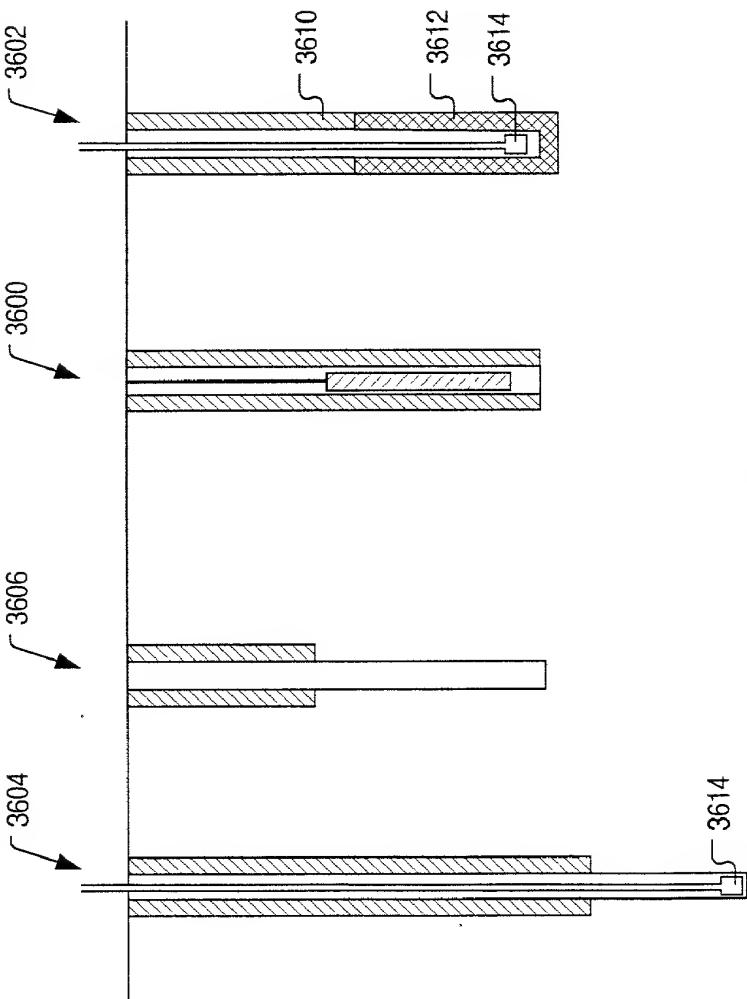


FIG. 105

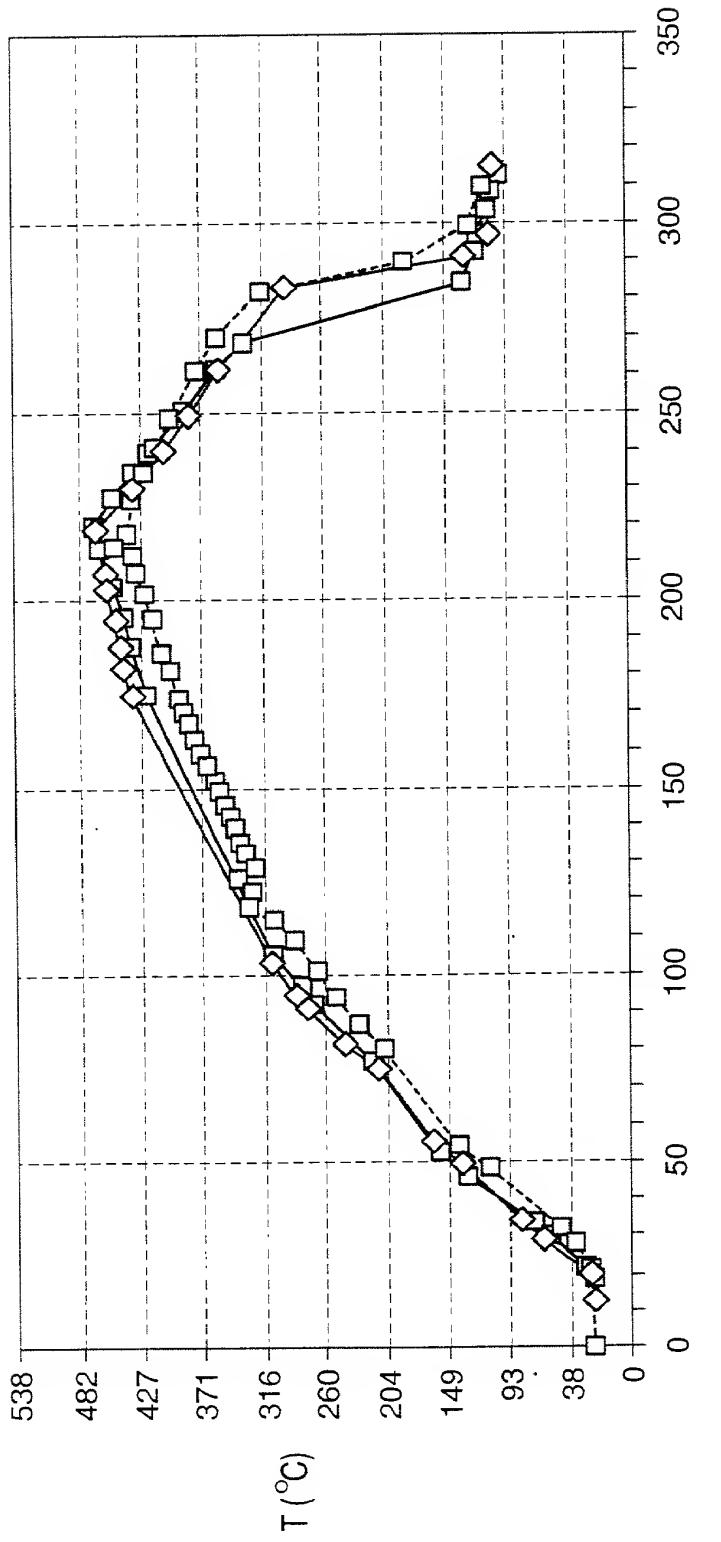
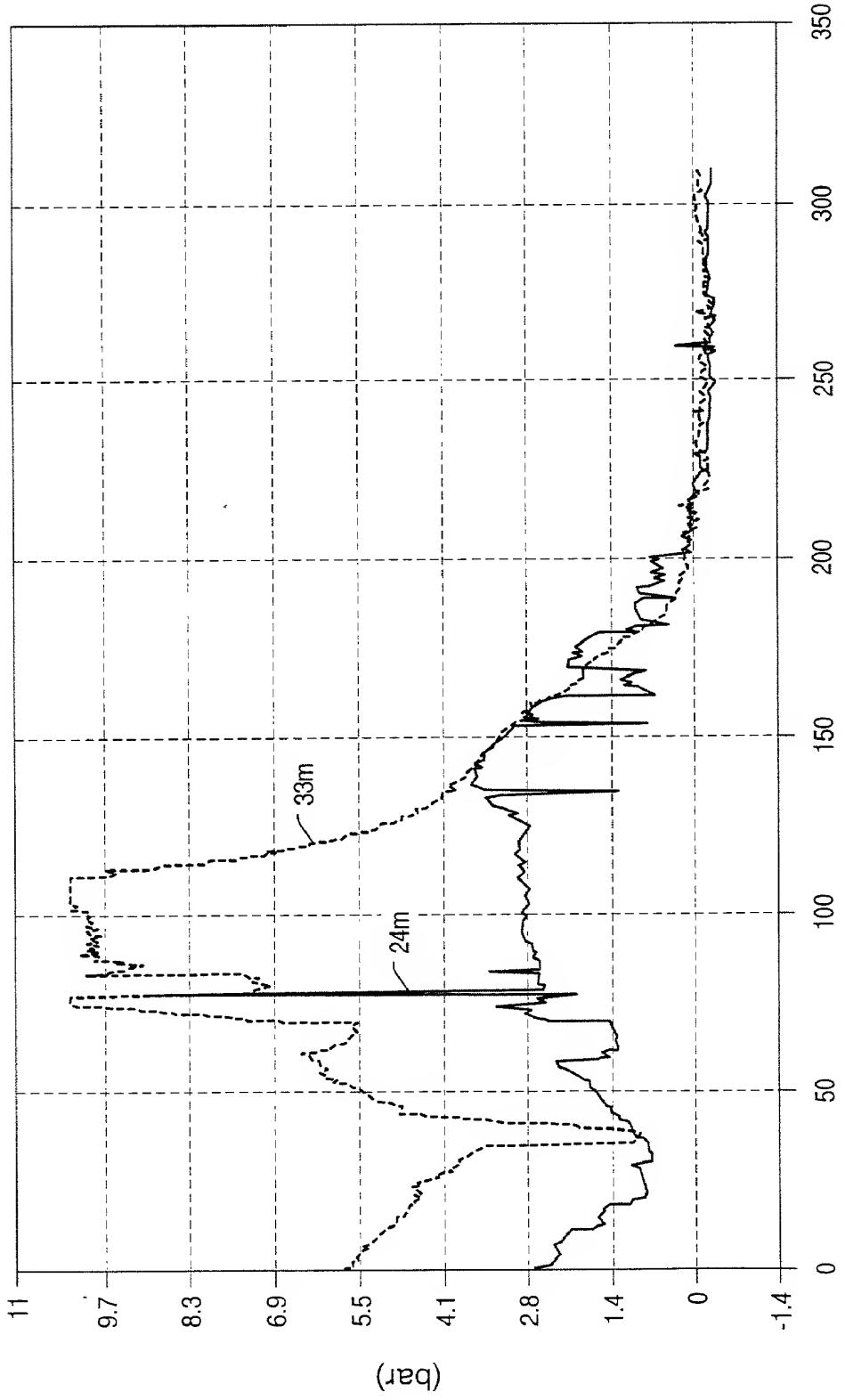


FIG. 106  
time (days)

FIG. 107  
t (days)



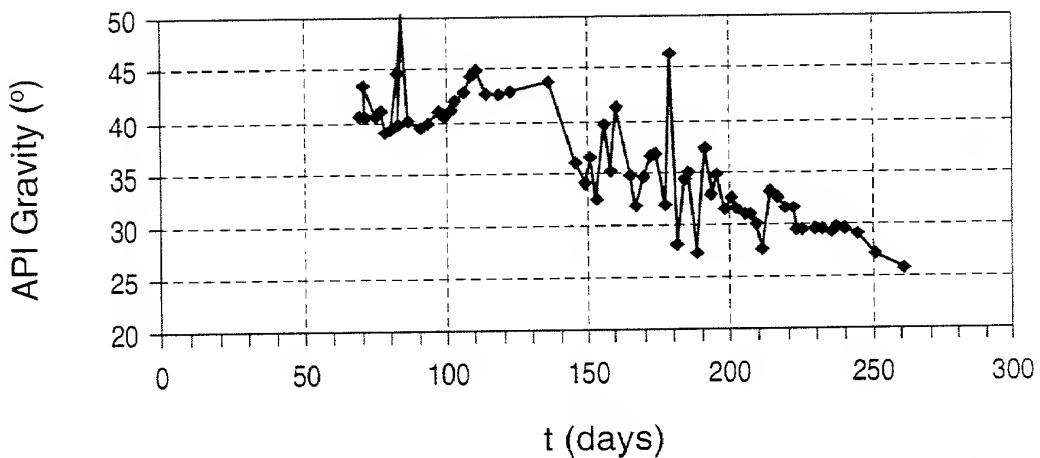


FIG. 108

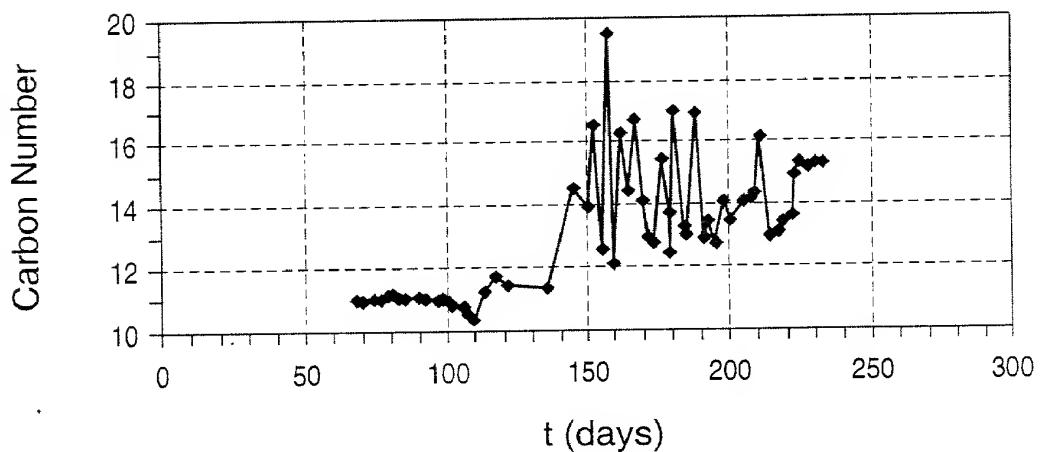


FIG. 109

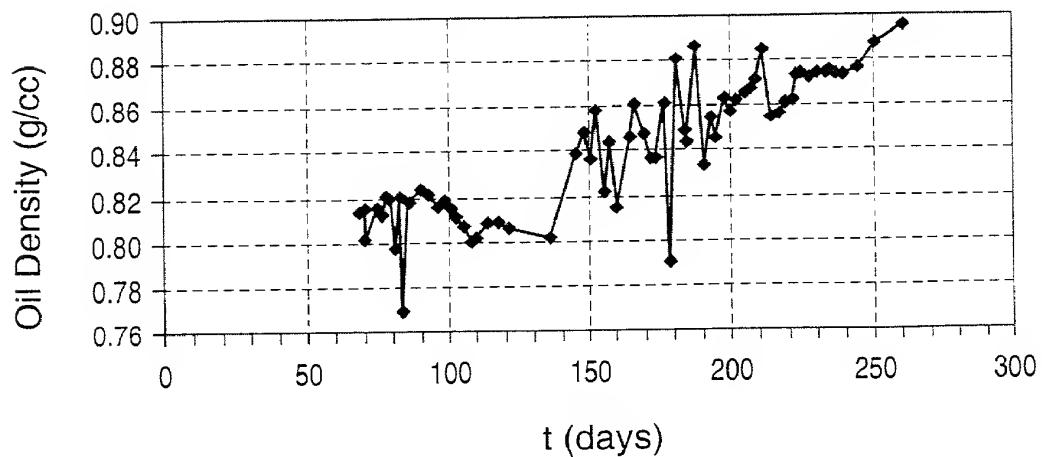


FIG. 110

FIG. 111  
Carbon Number

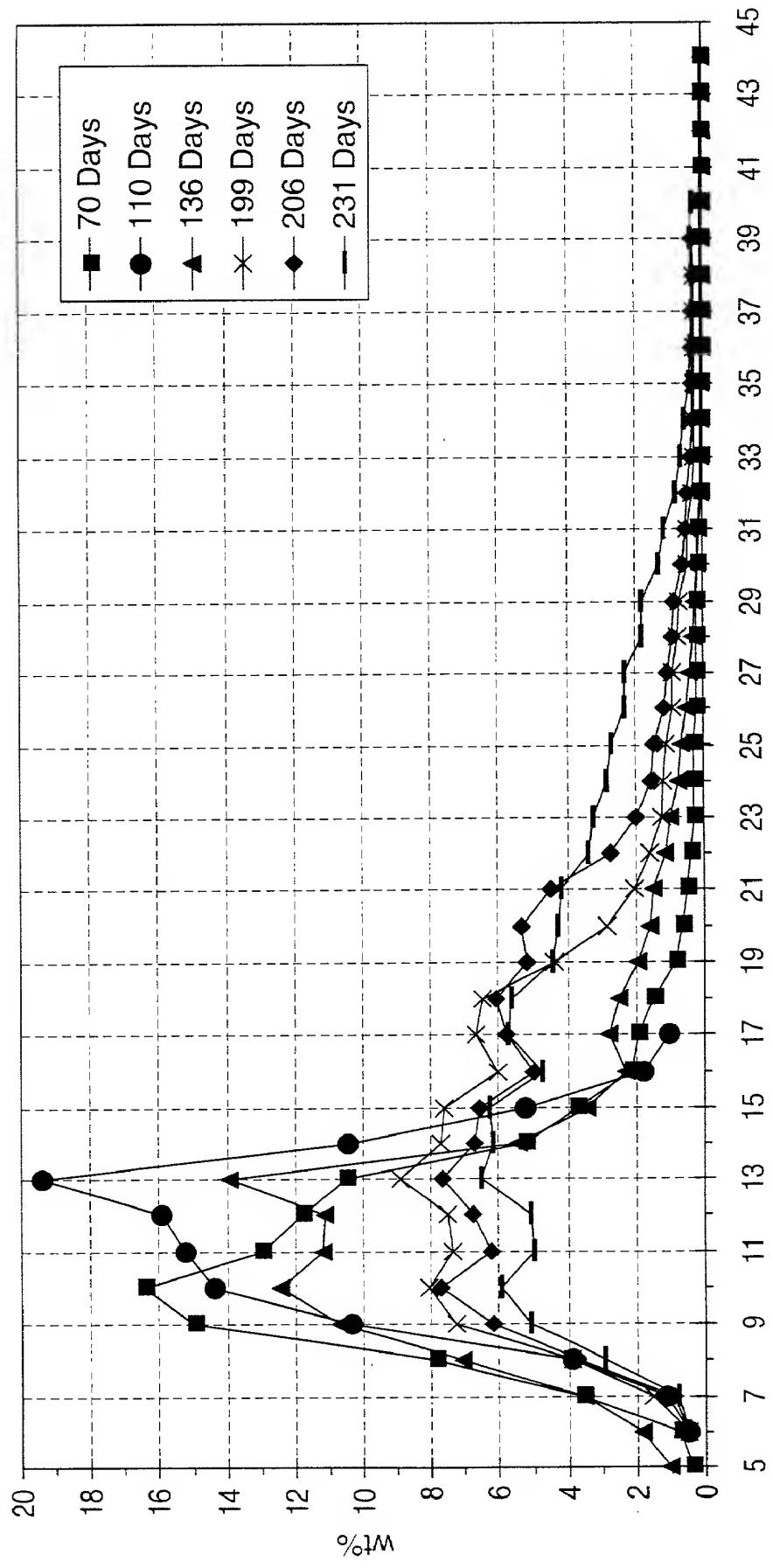


FIG. 112

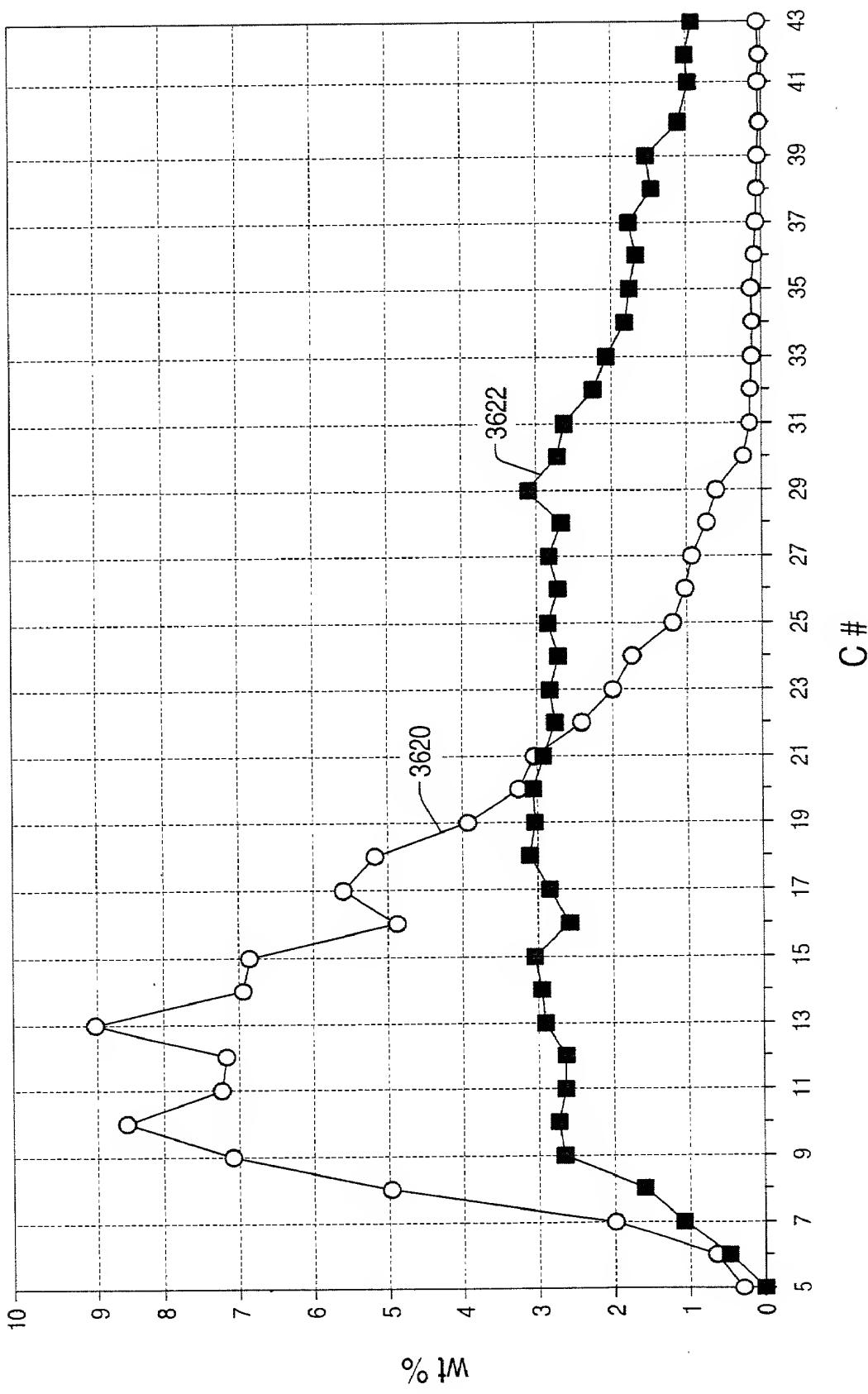


FIG. 113

Heating Rate ( $^{\circ}\text{C}/\text{day}$ )

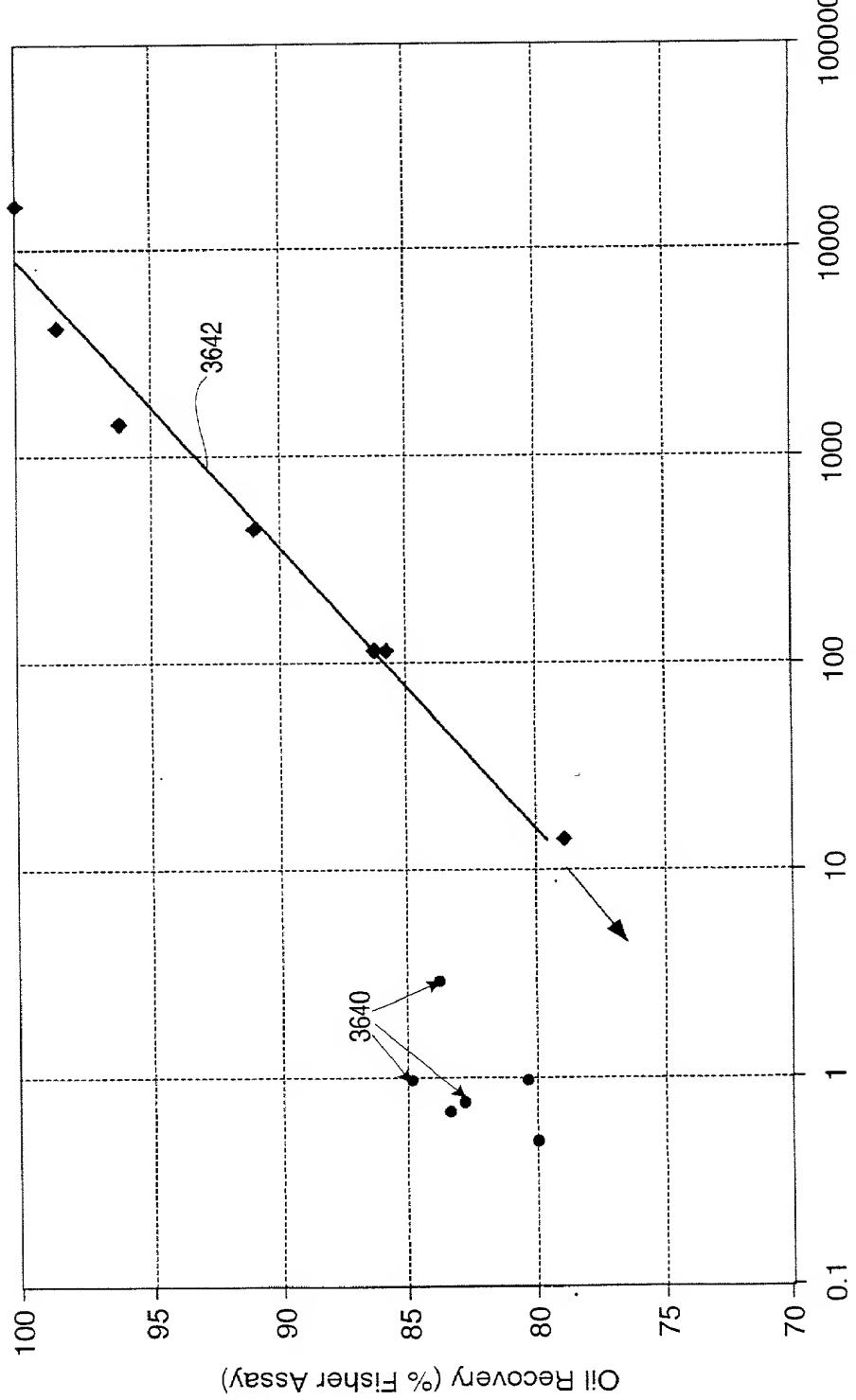
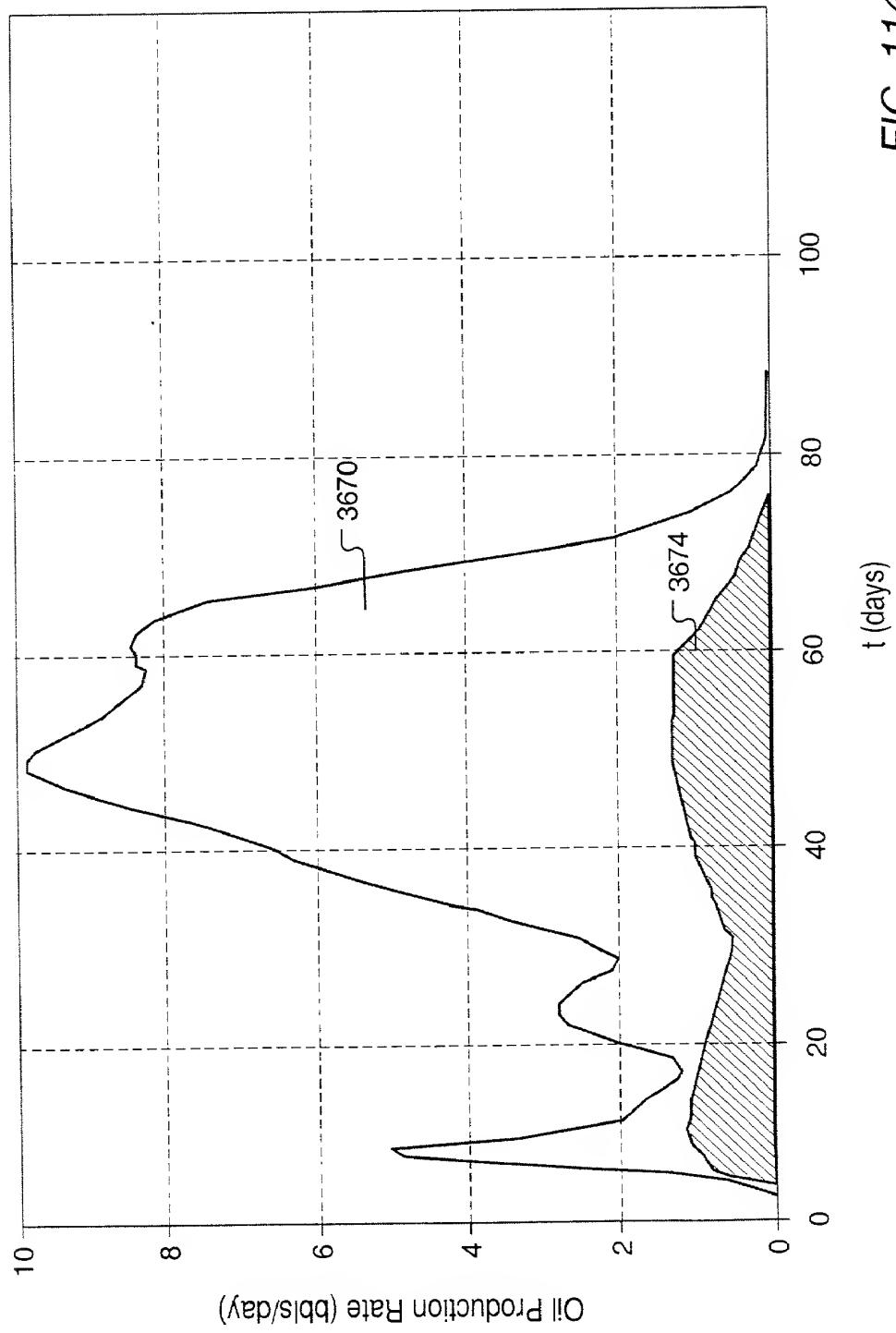


FIG. 114



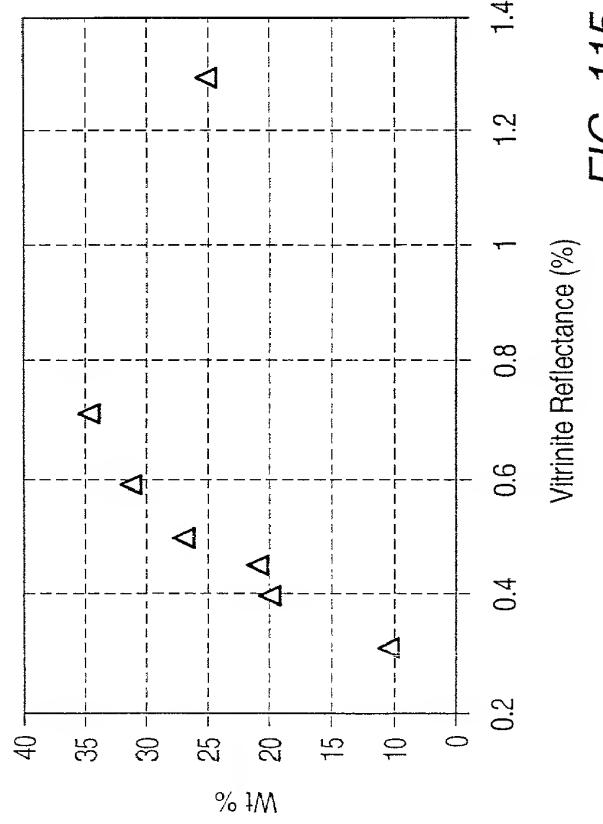


FIG. 115

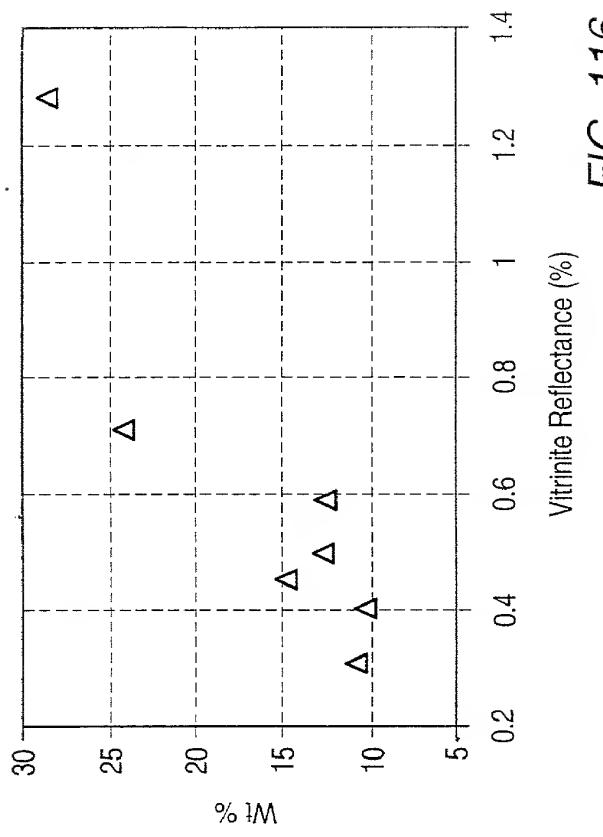


FIG. 116

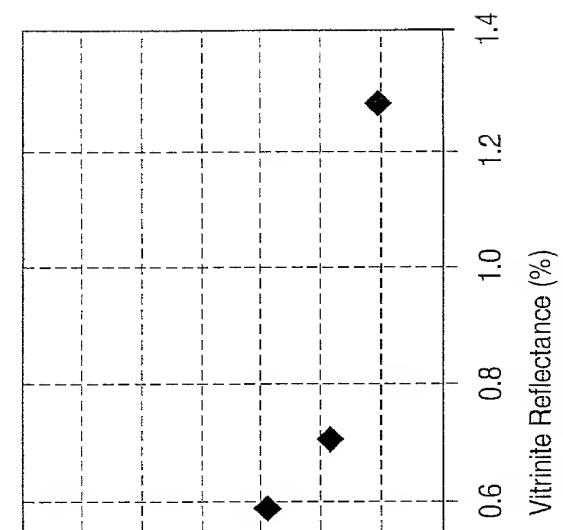


FIG. 118

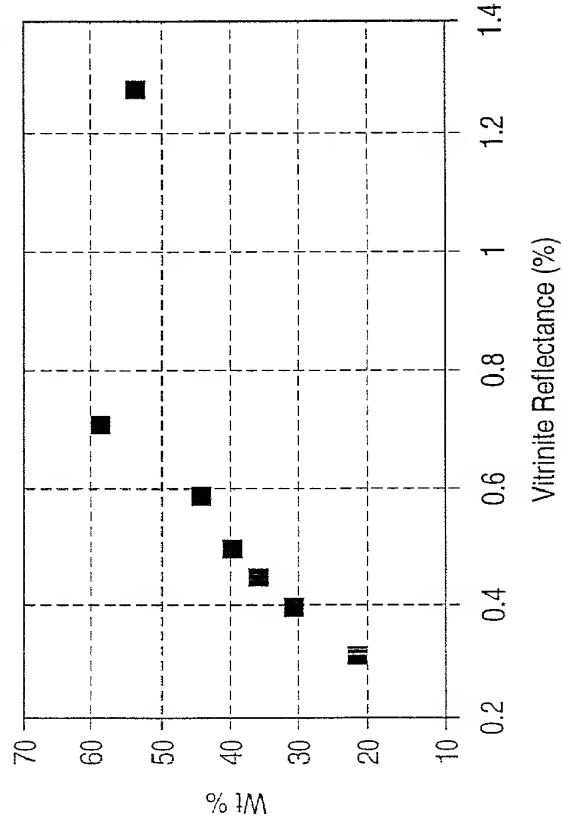


FIG. 117

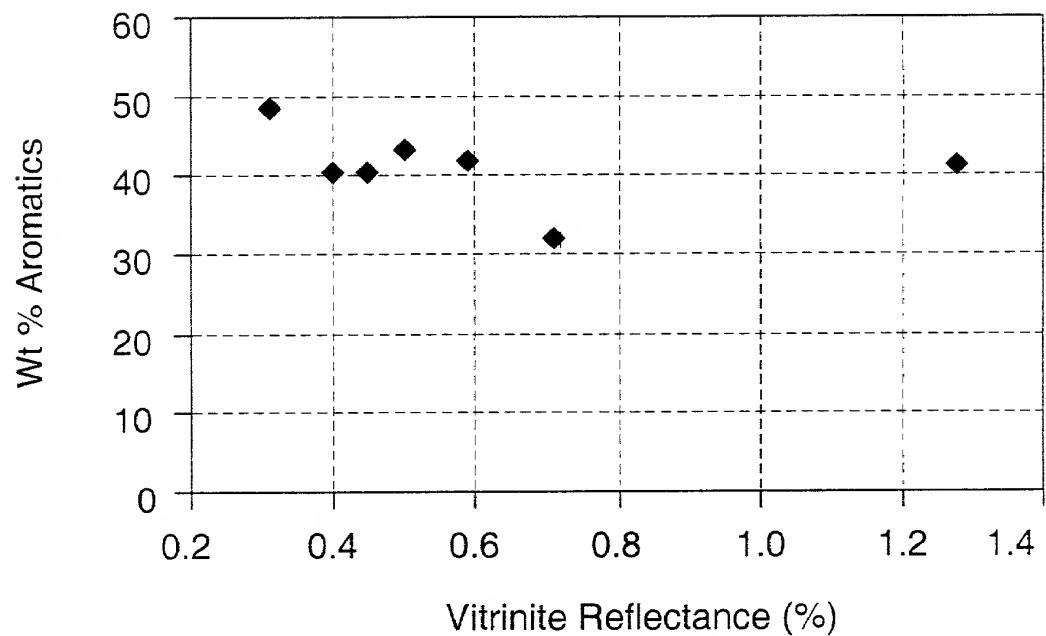


FIG. 119

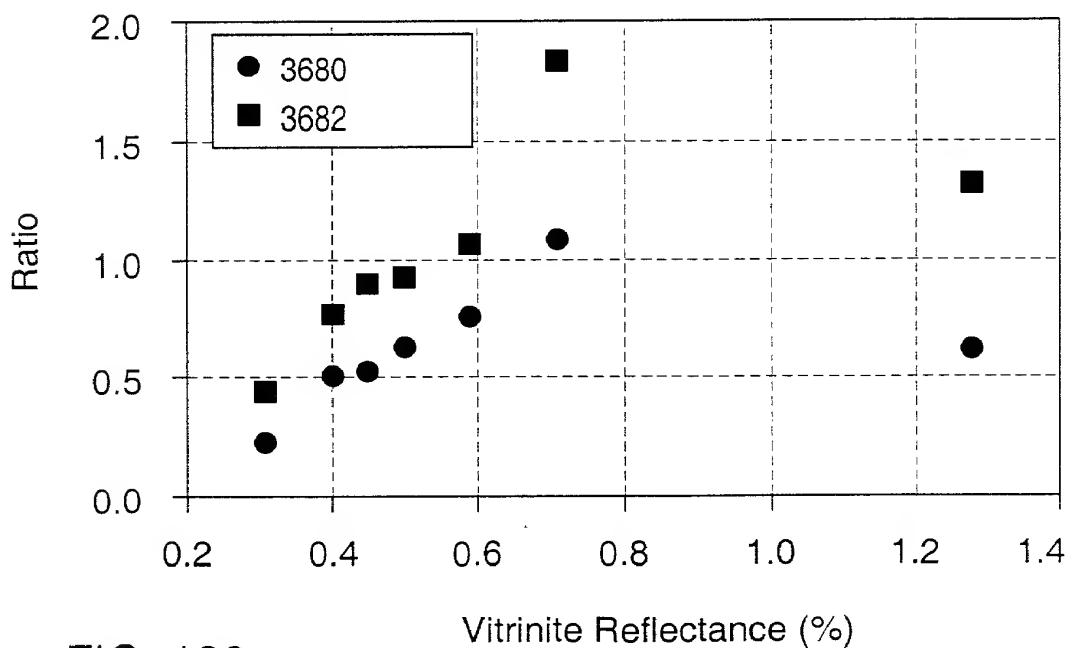


FIG. 120

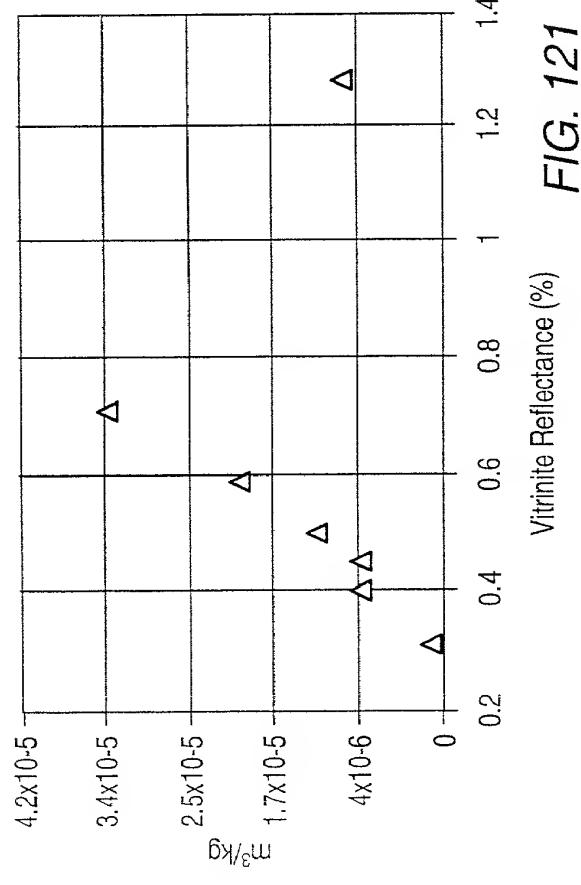


FIG. 121

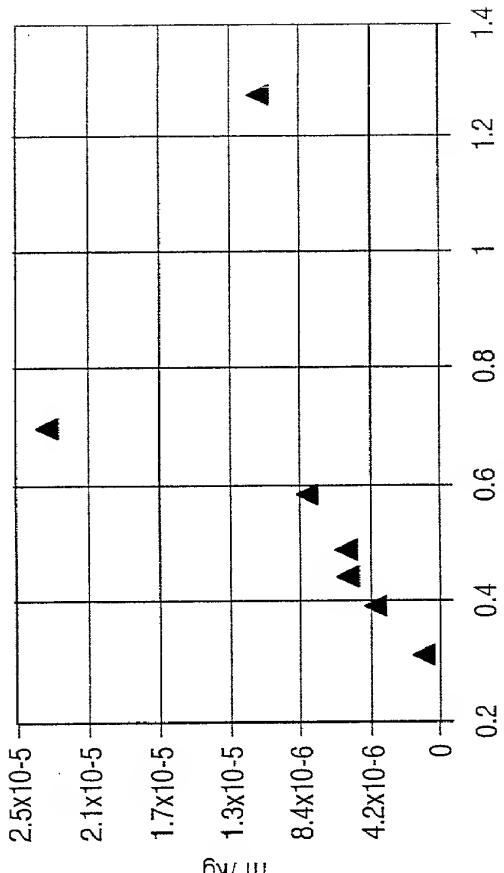


FIG. 122 Vitrinite Reflectance (%)

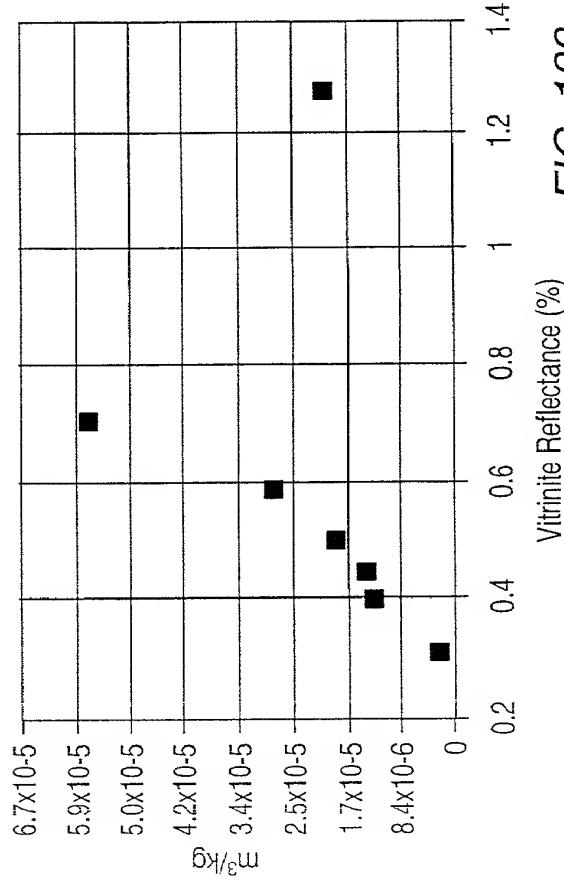
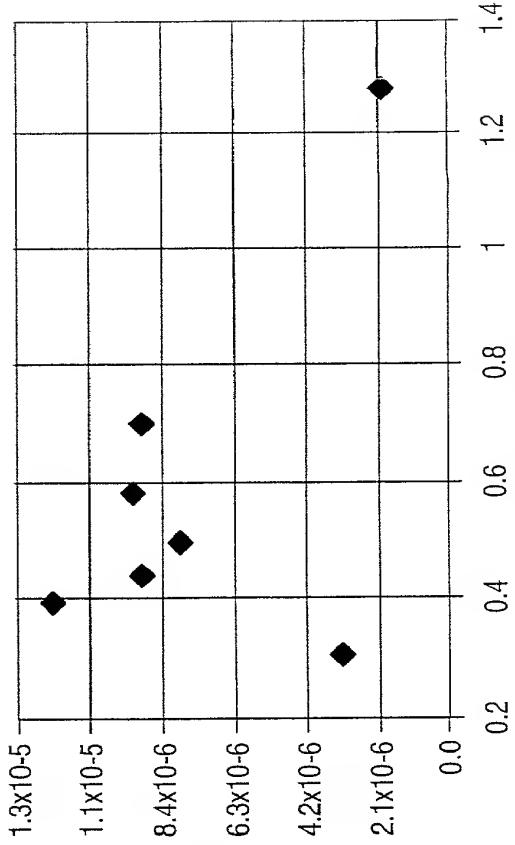


FIG. 123



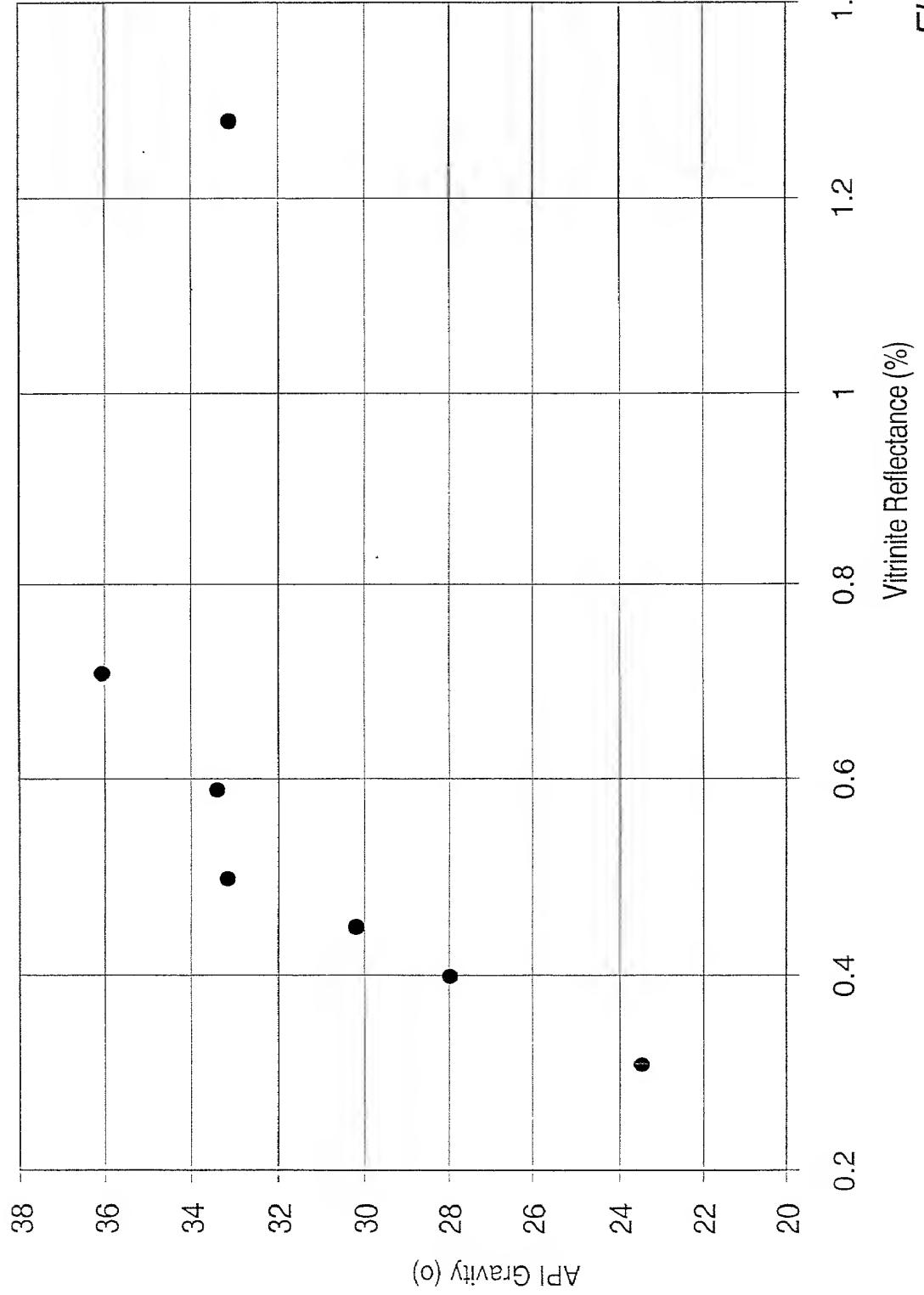
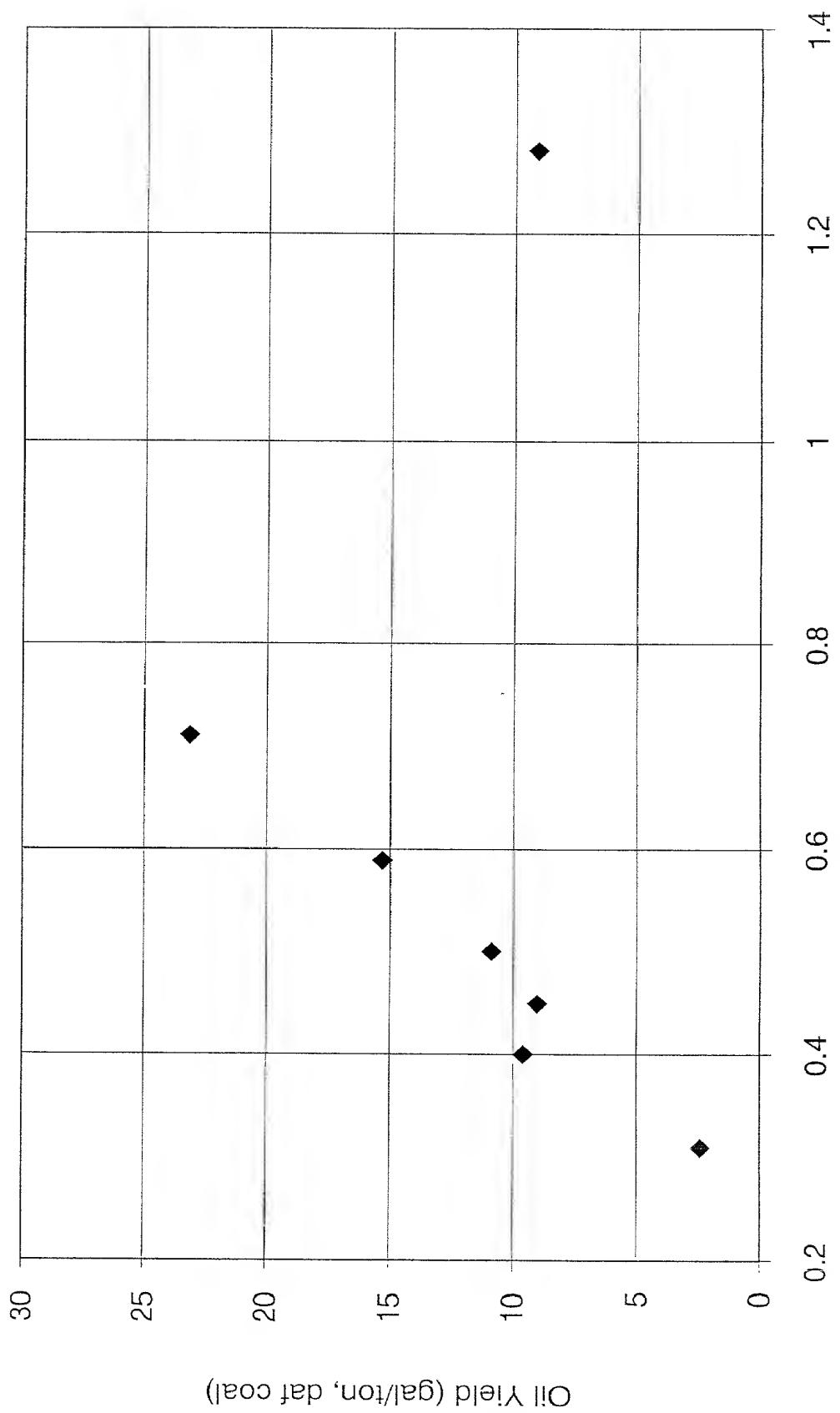


FIG. 125

FIG. 126

Vitrinite Reflectance (%)



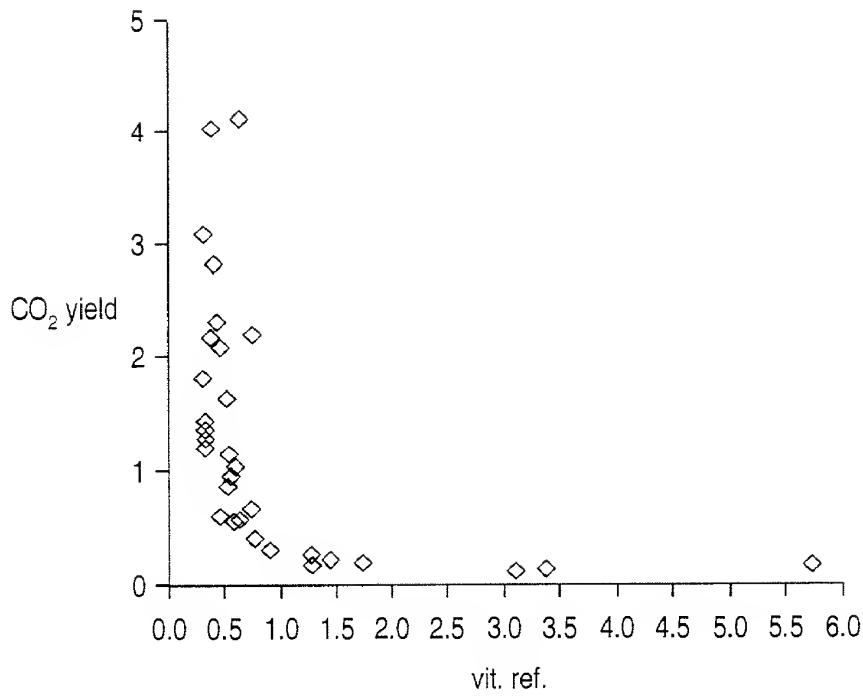


FIG. 127

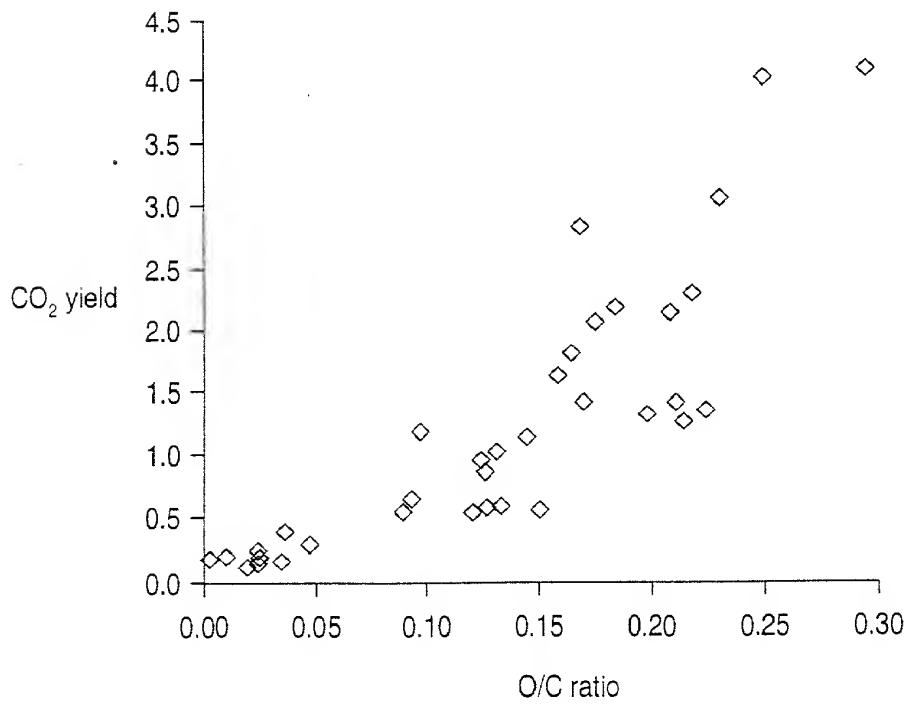
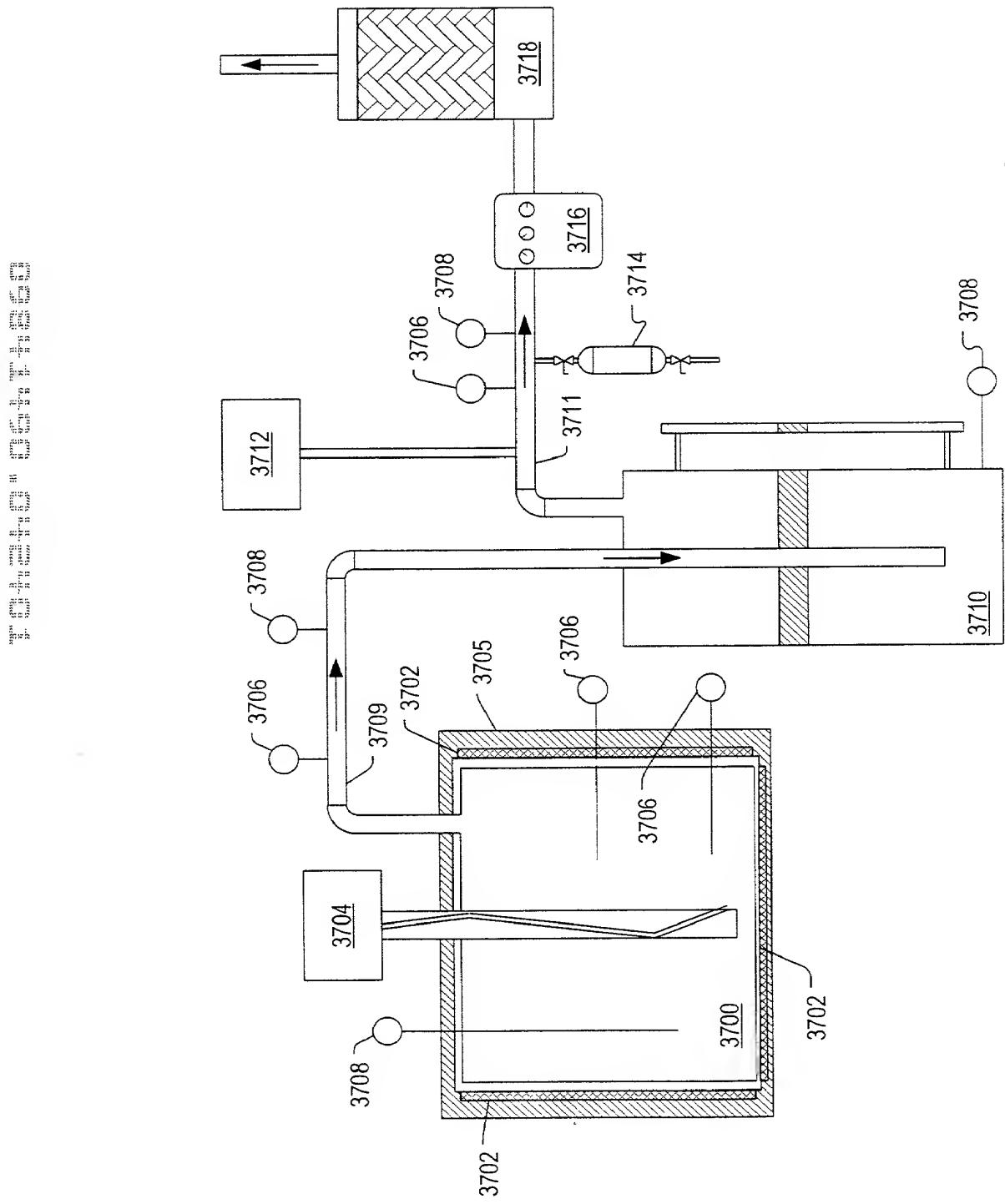


FIG. 128

FIG. 129



1000 900 800 700 600 500 400 300 200 100

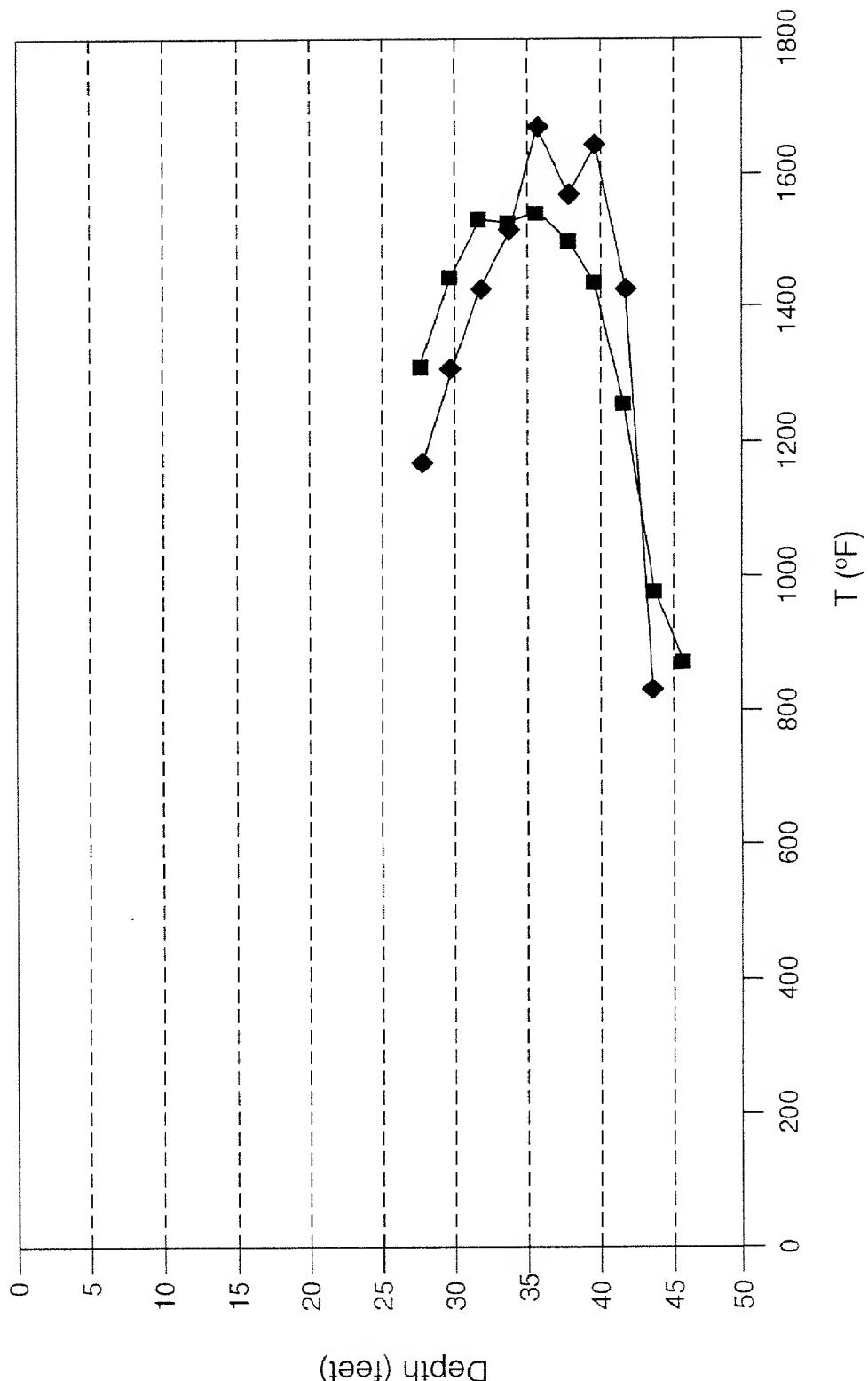


FIG. 130

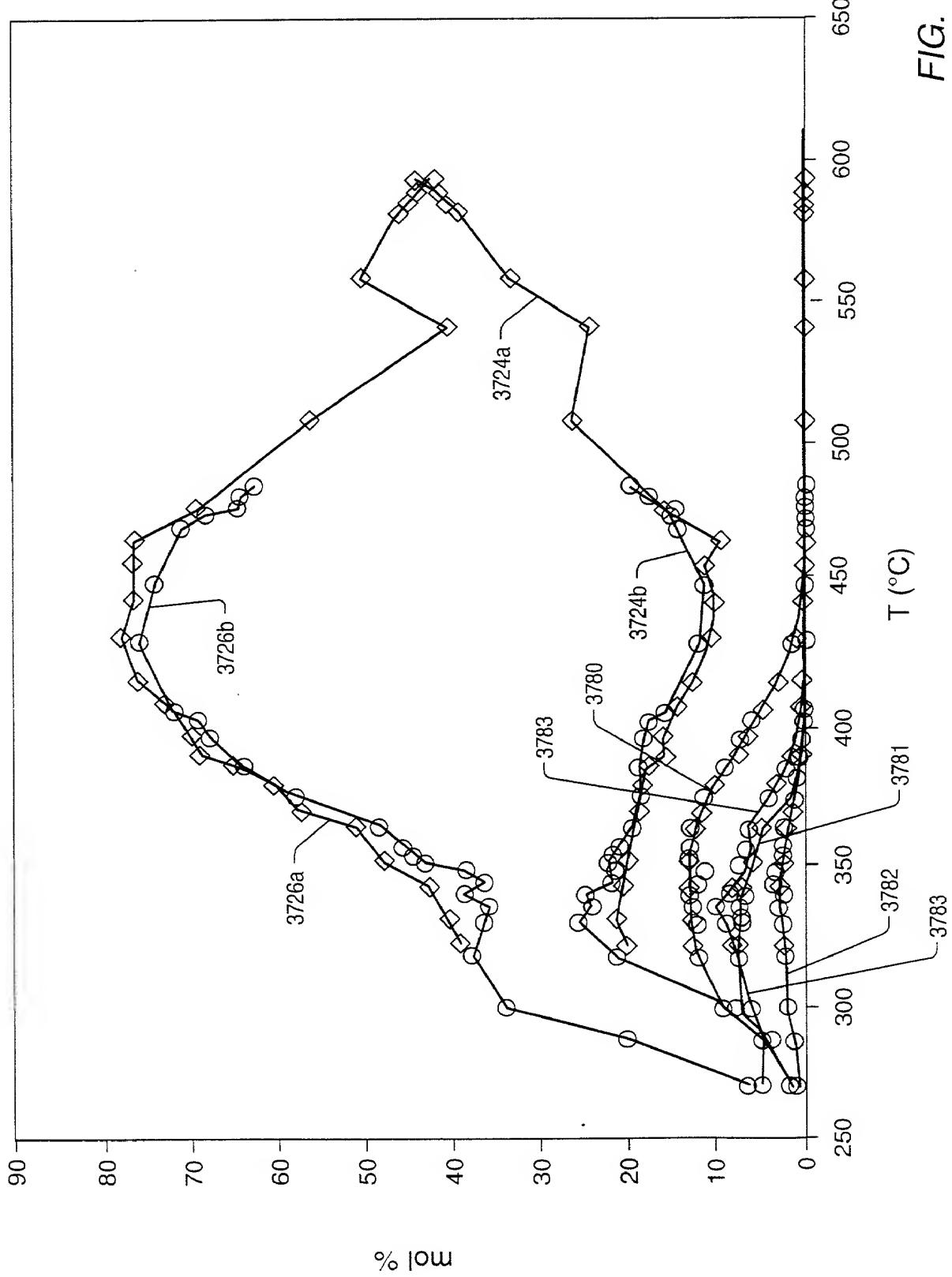


FIG. 131

125  
109  
94  
78  
62  
47  
31  
15

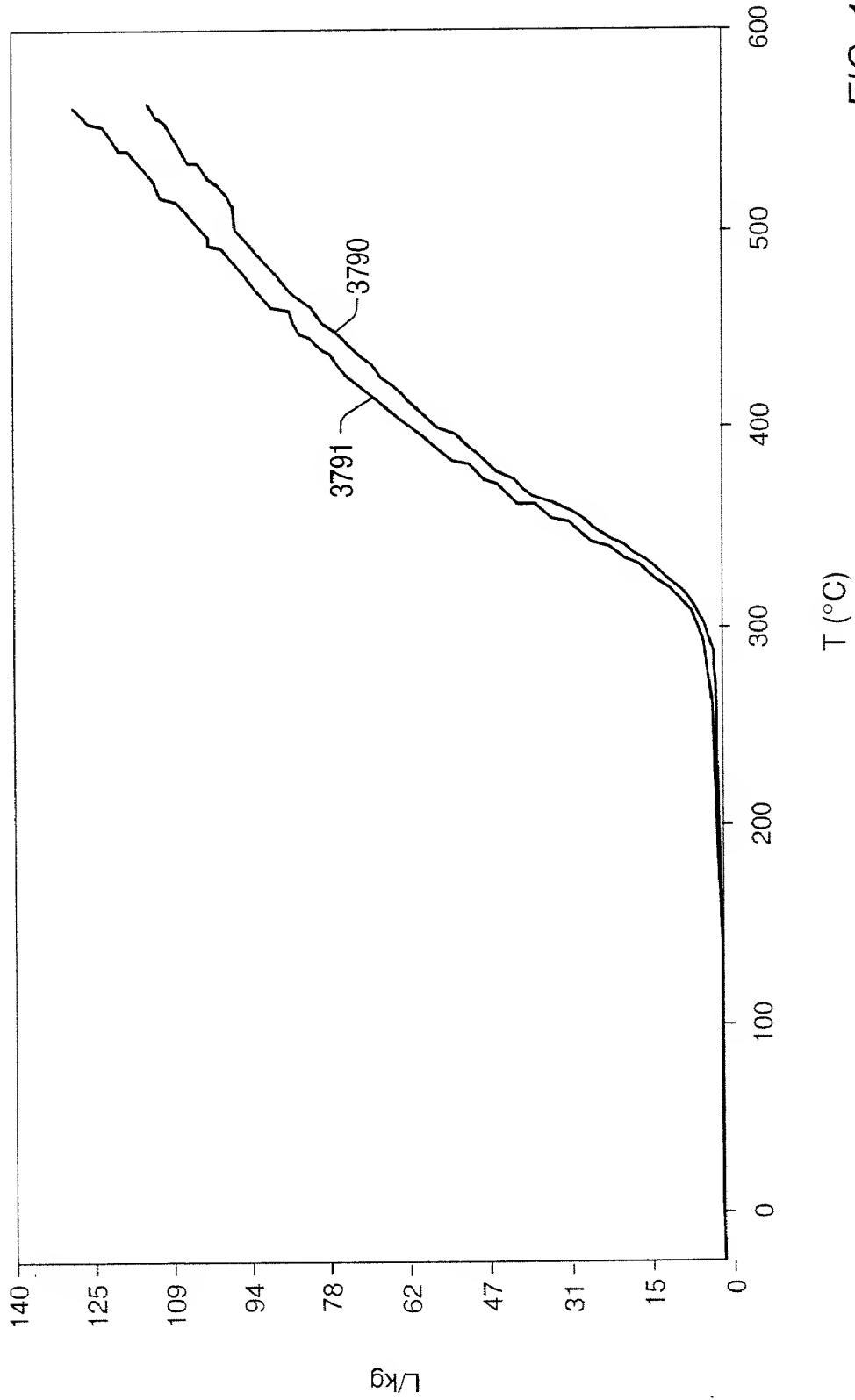


FIG. 132

FIG. 133

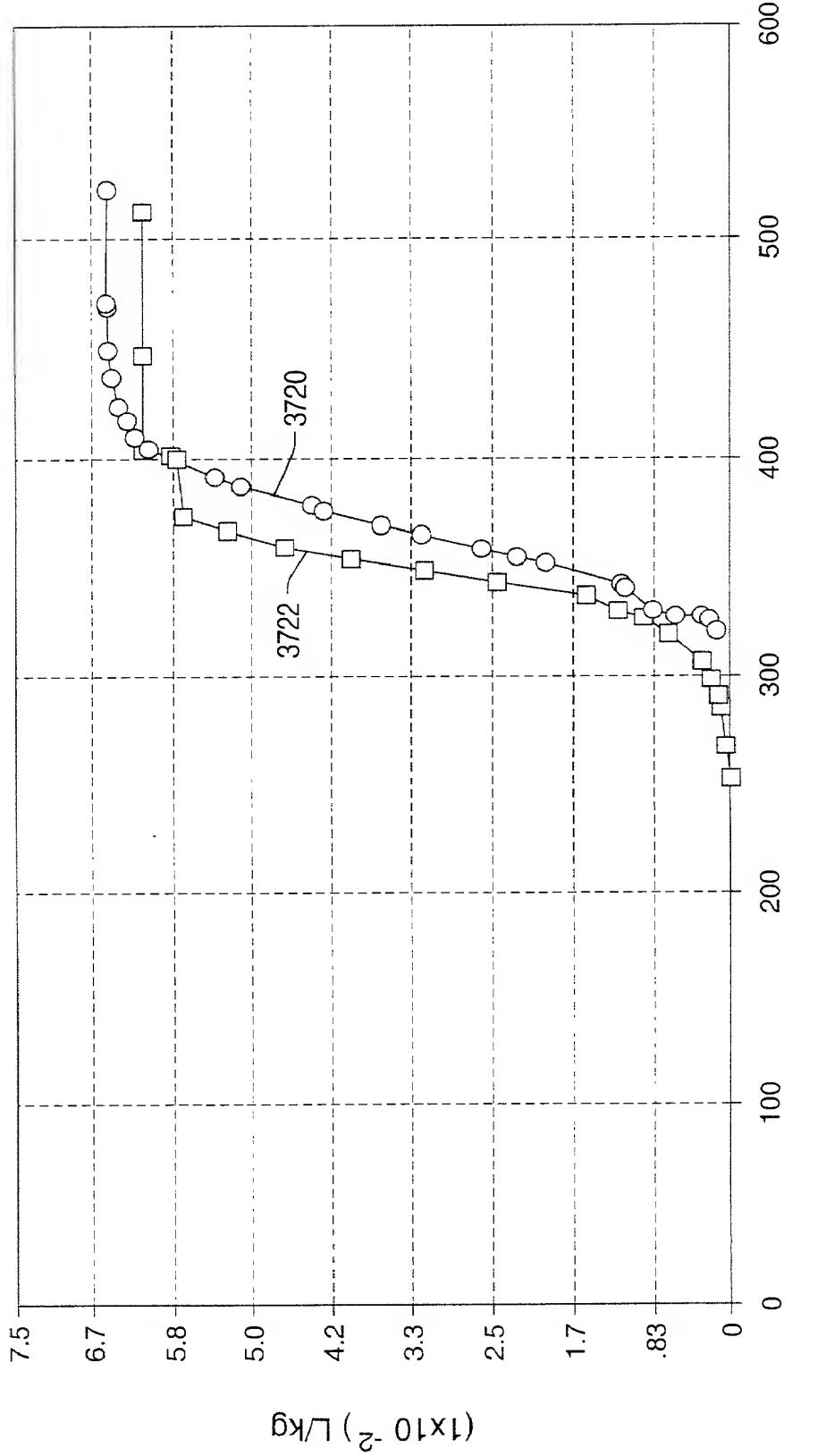


FIG. 134

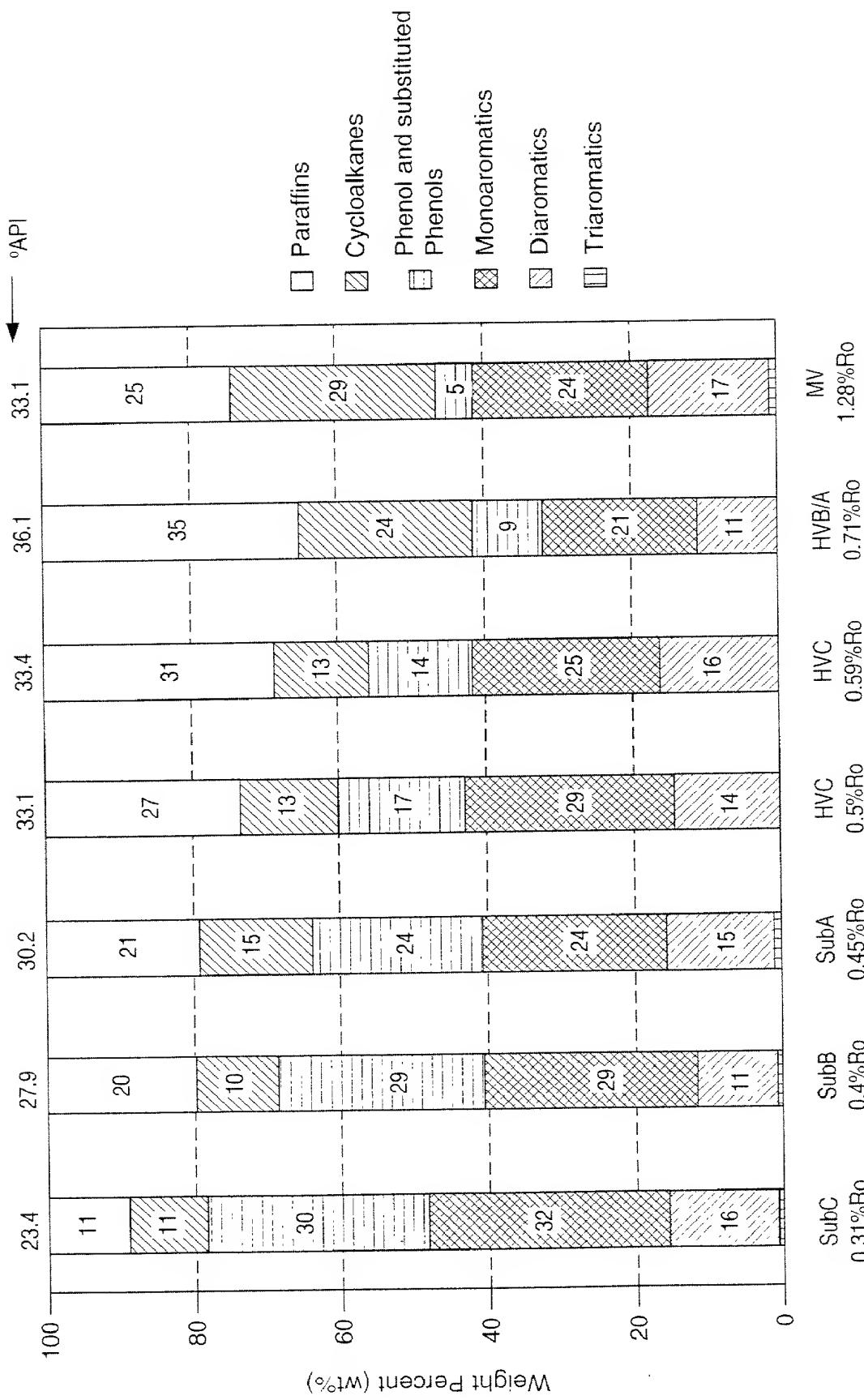
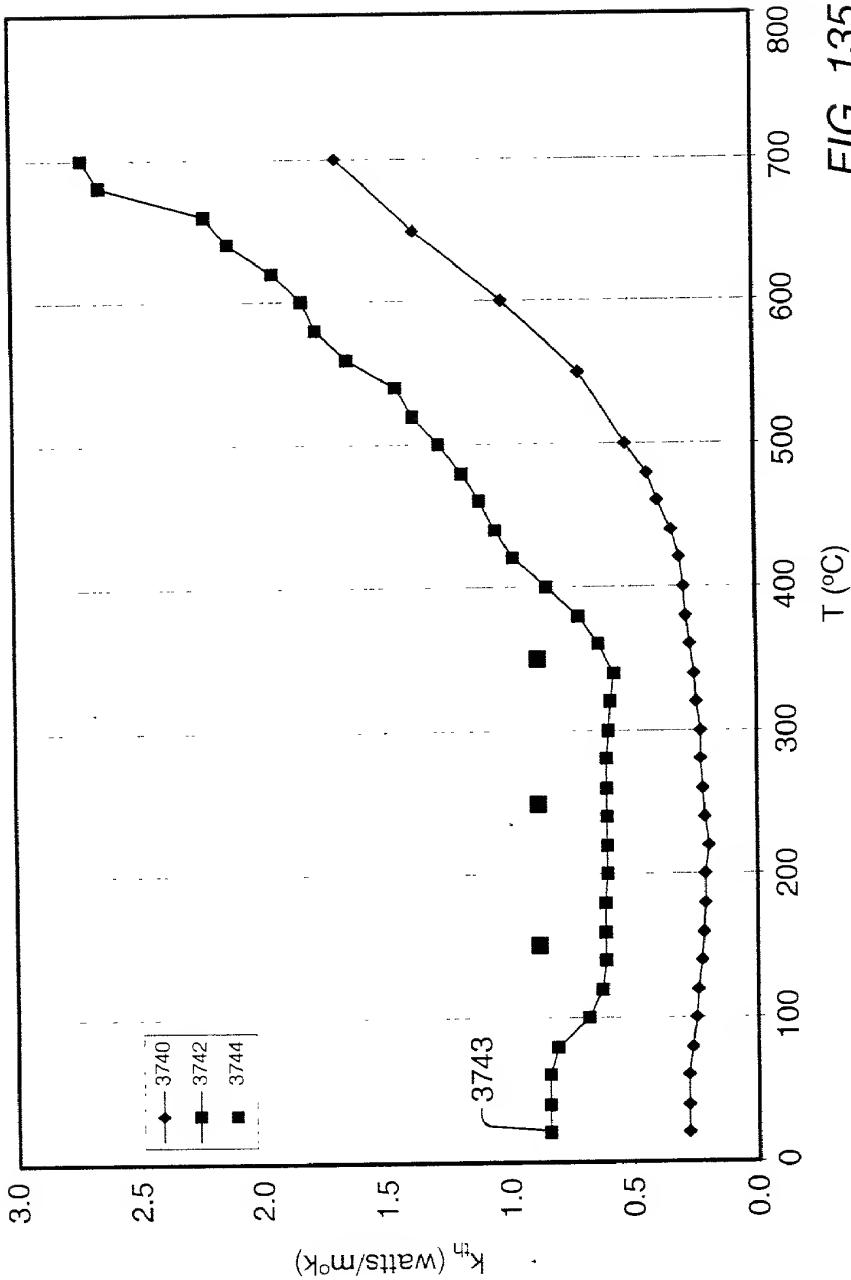


FIG. 135



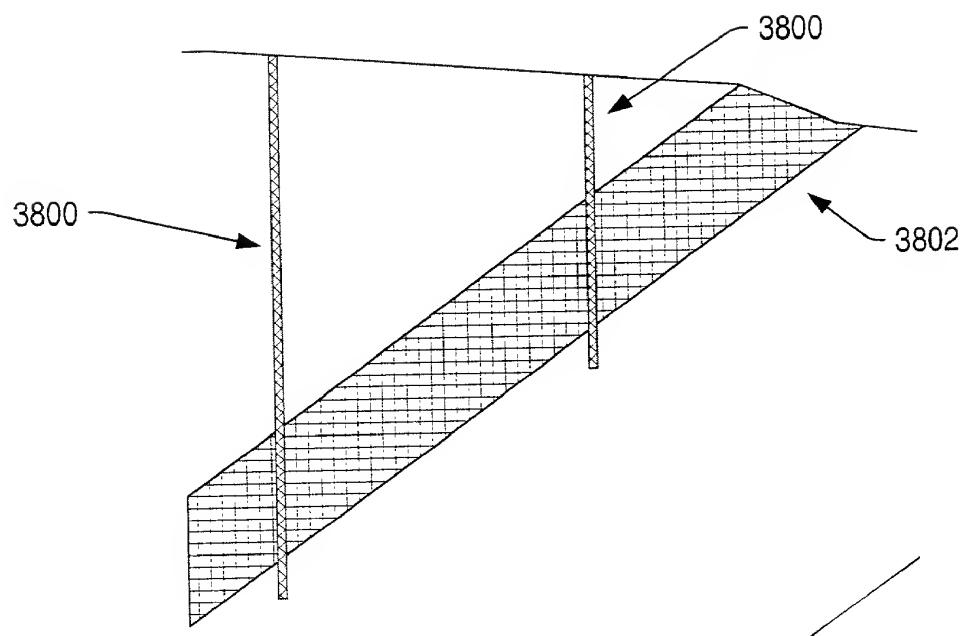


FIG. 136

3800

FIG. 137

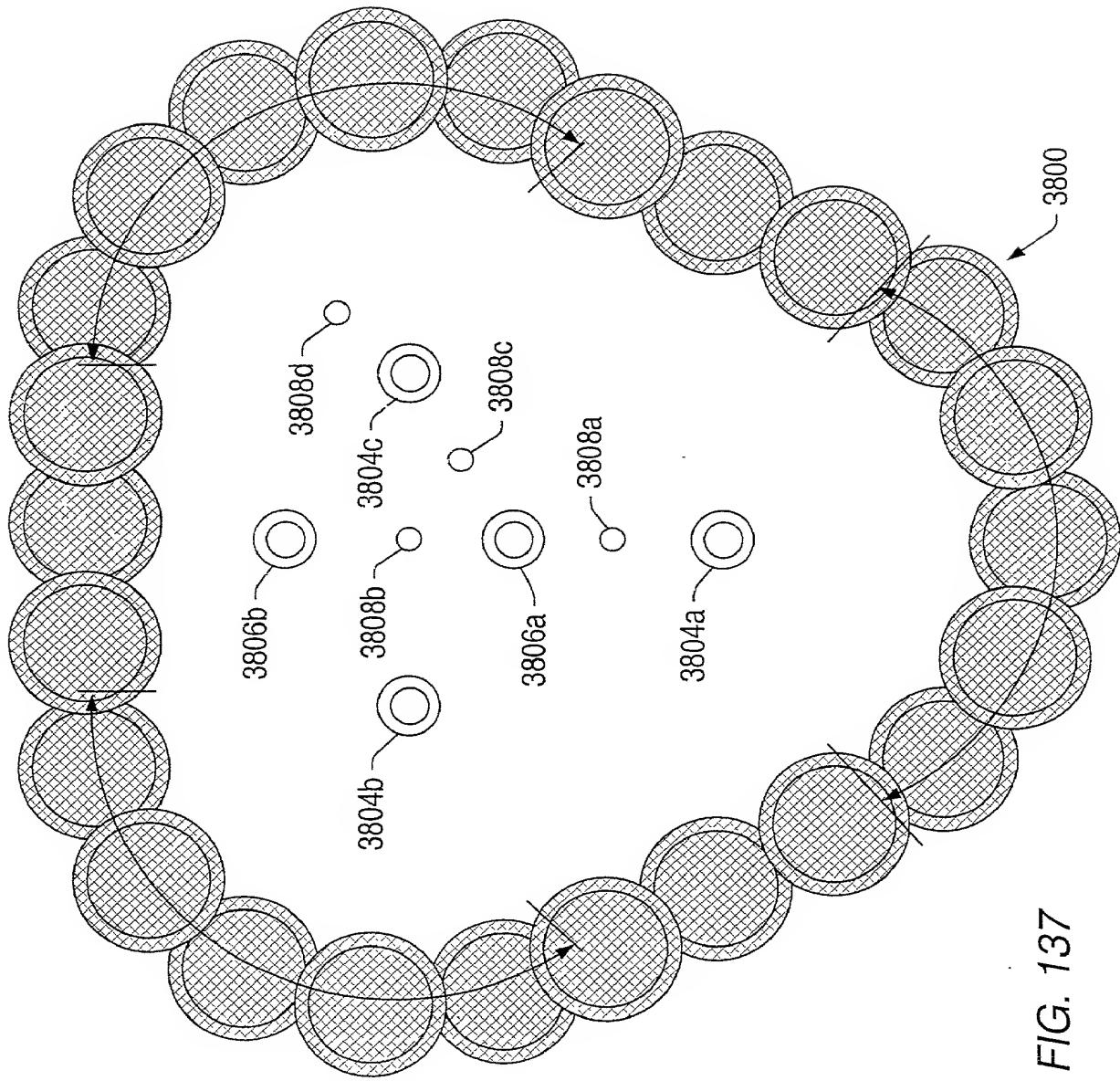


FIG. 138

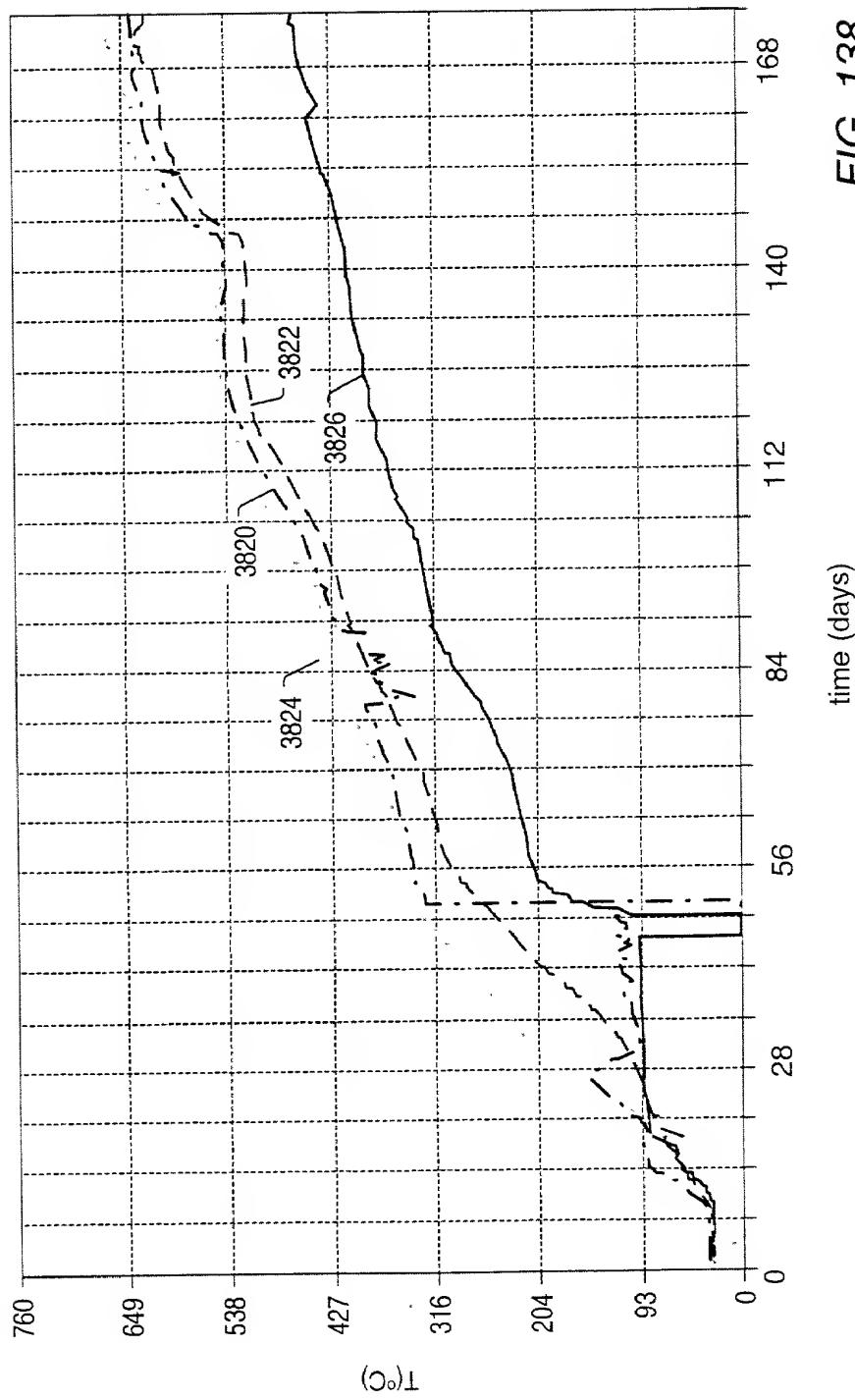
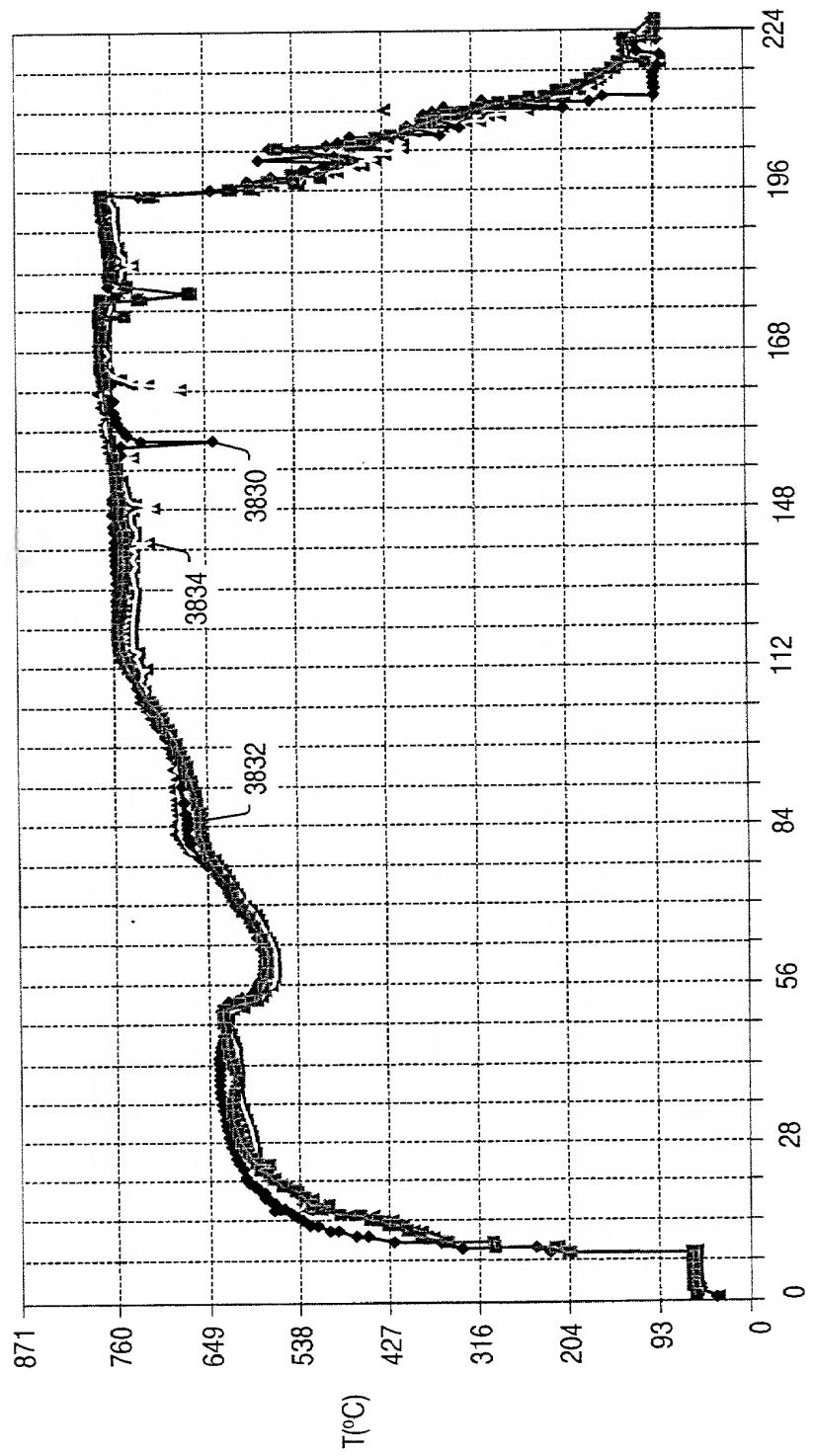


FIG. 139



*FIG. 140*

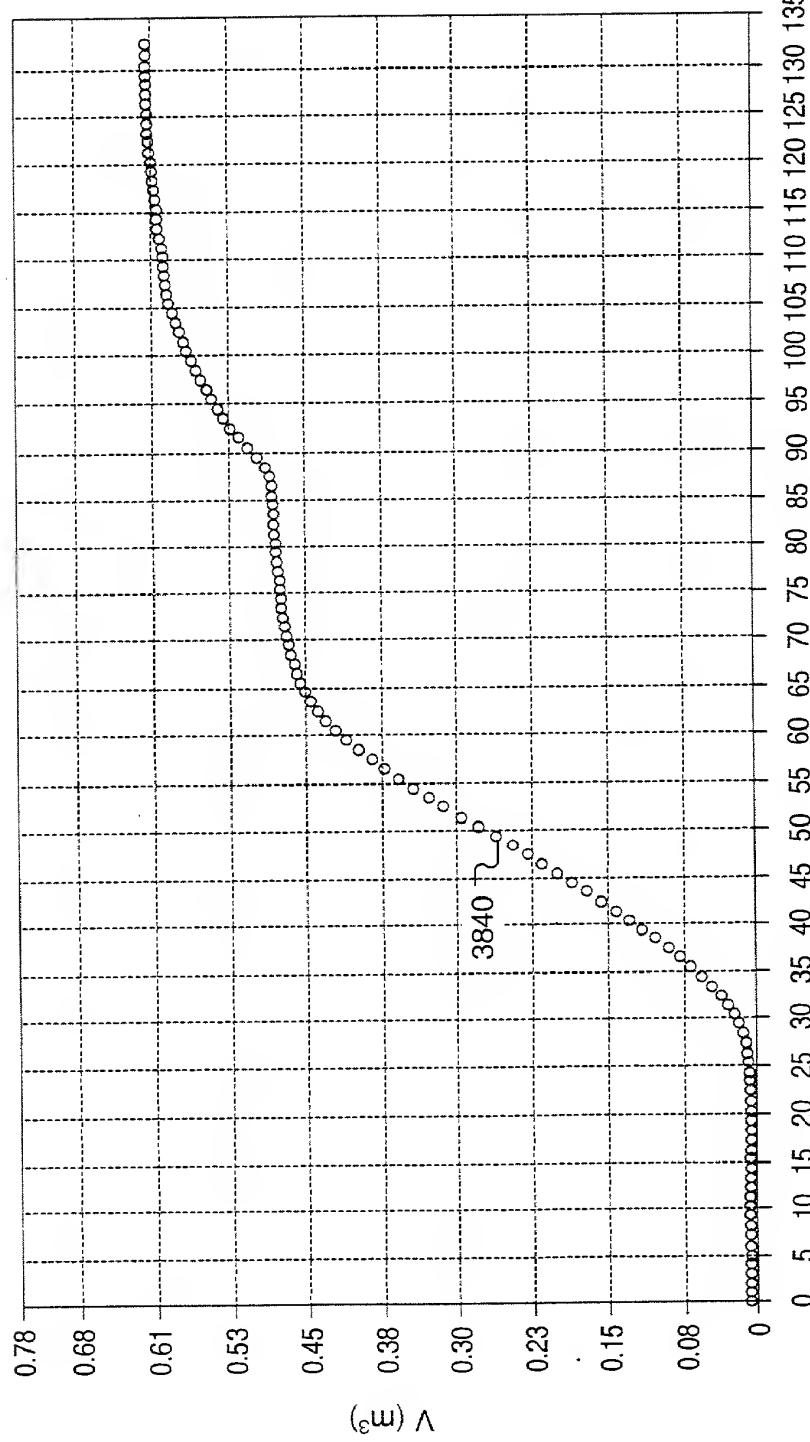


FIG. 141

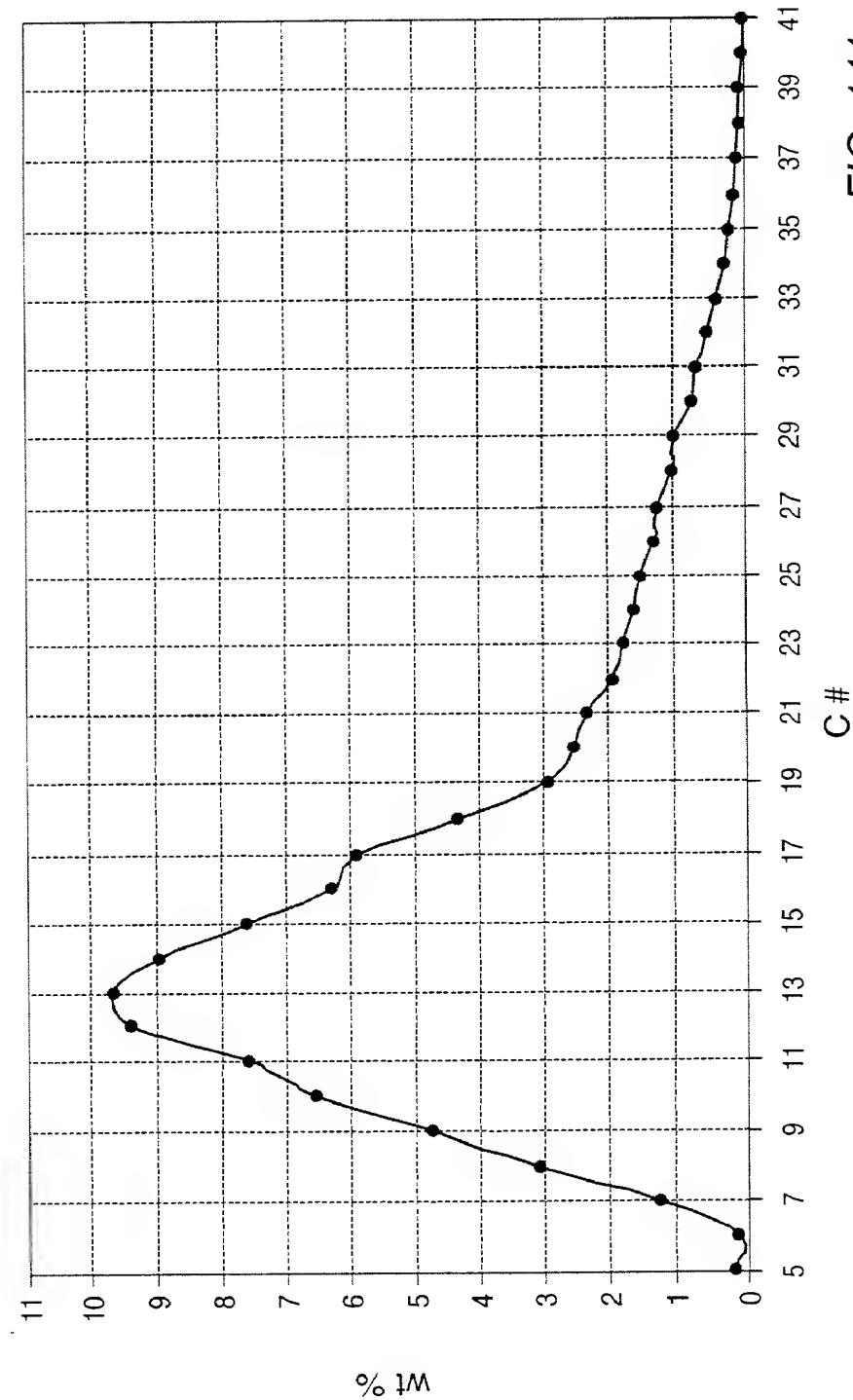


FIG. 142  
Carbon Number

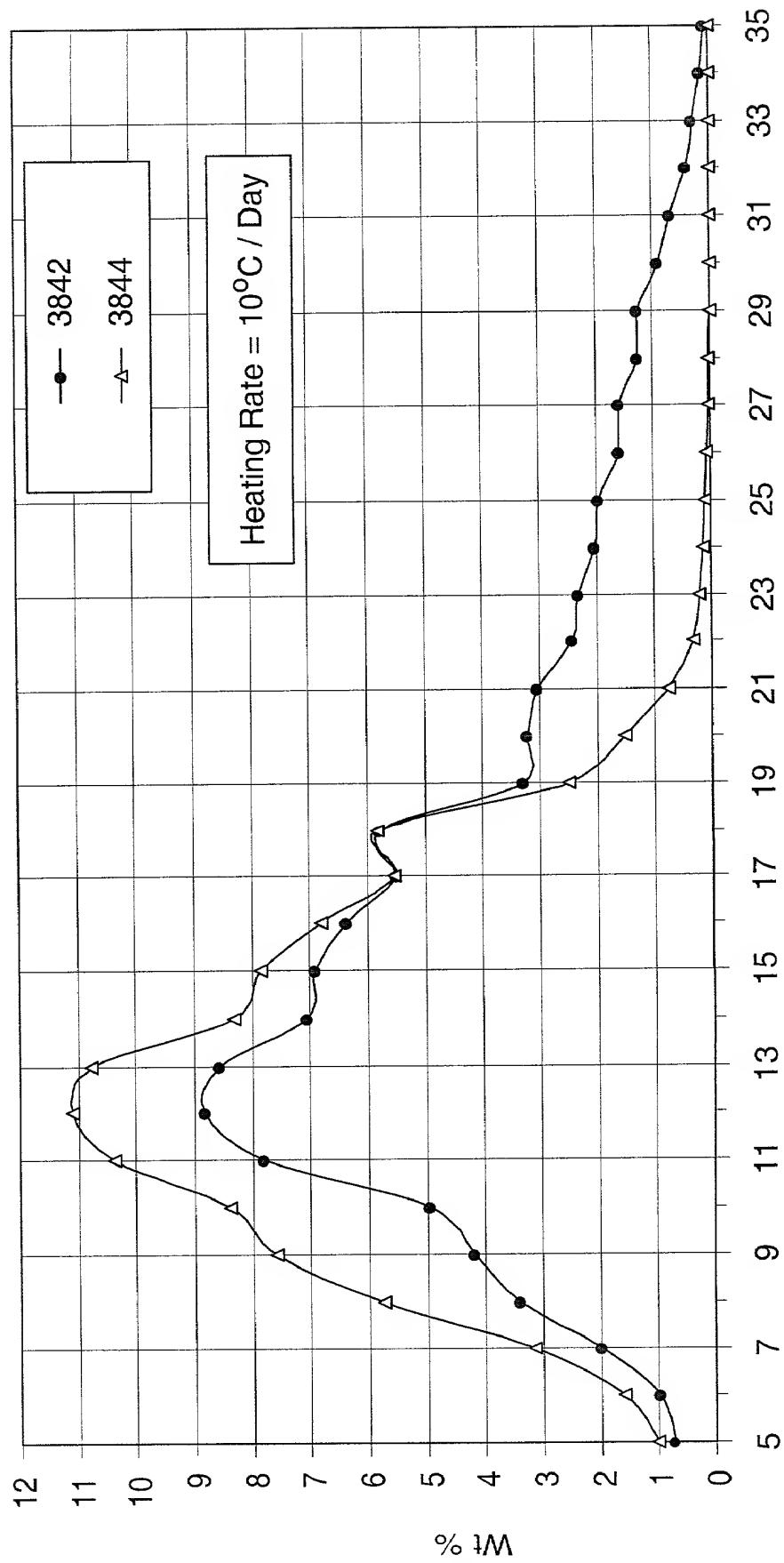


FIG. 143

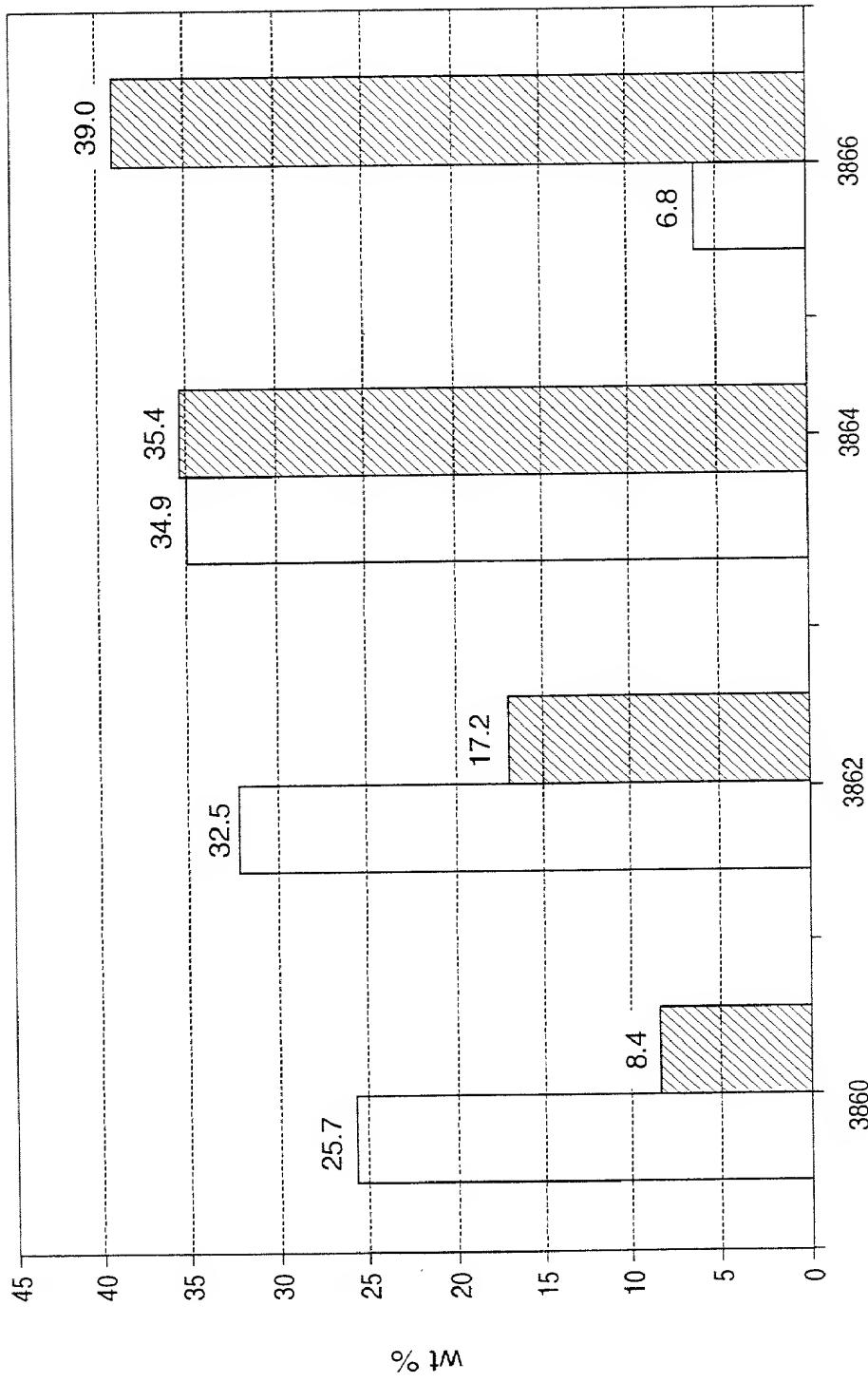


FIG. 144

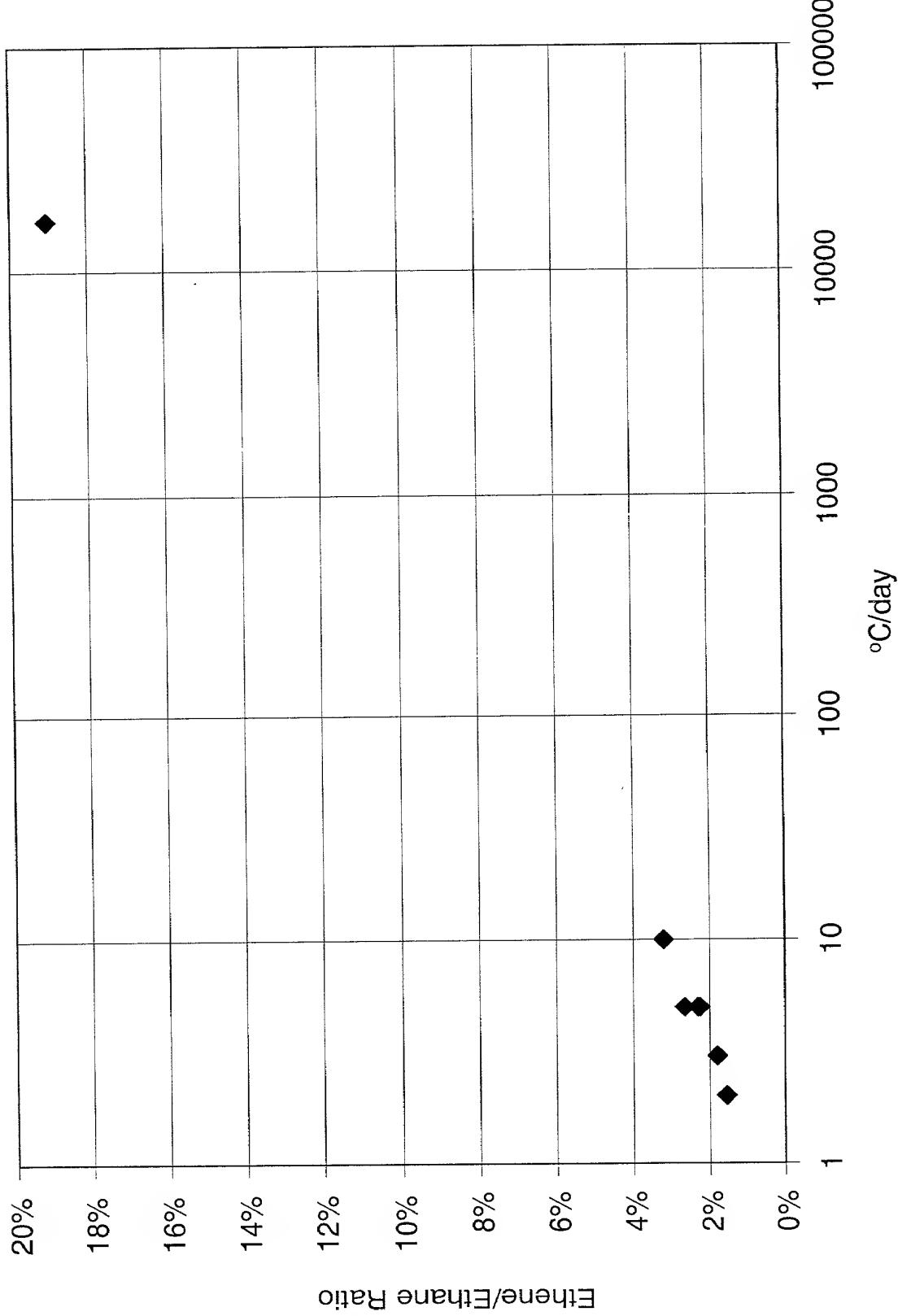


FIG. 145

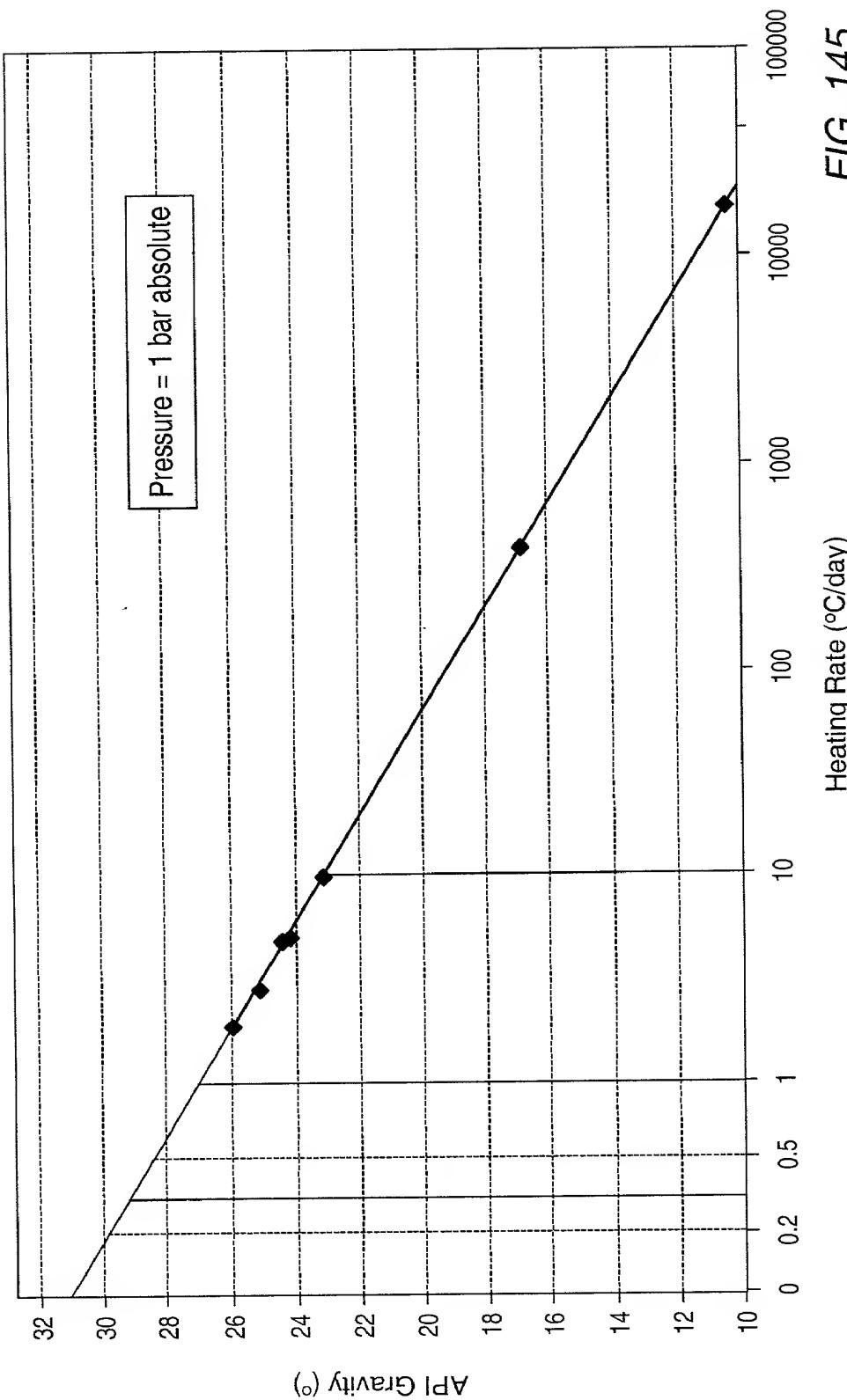


FIG. 146

C. No.

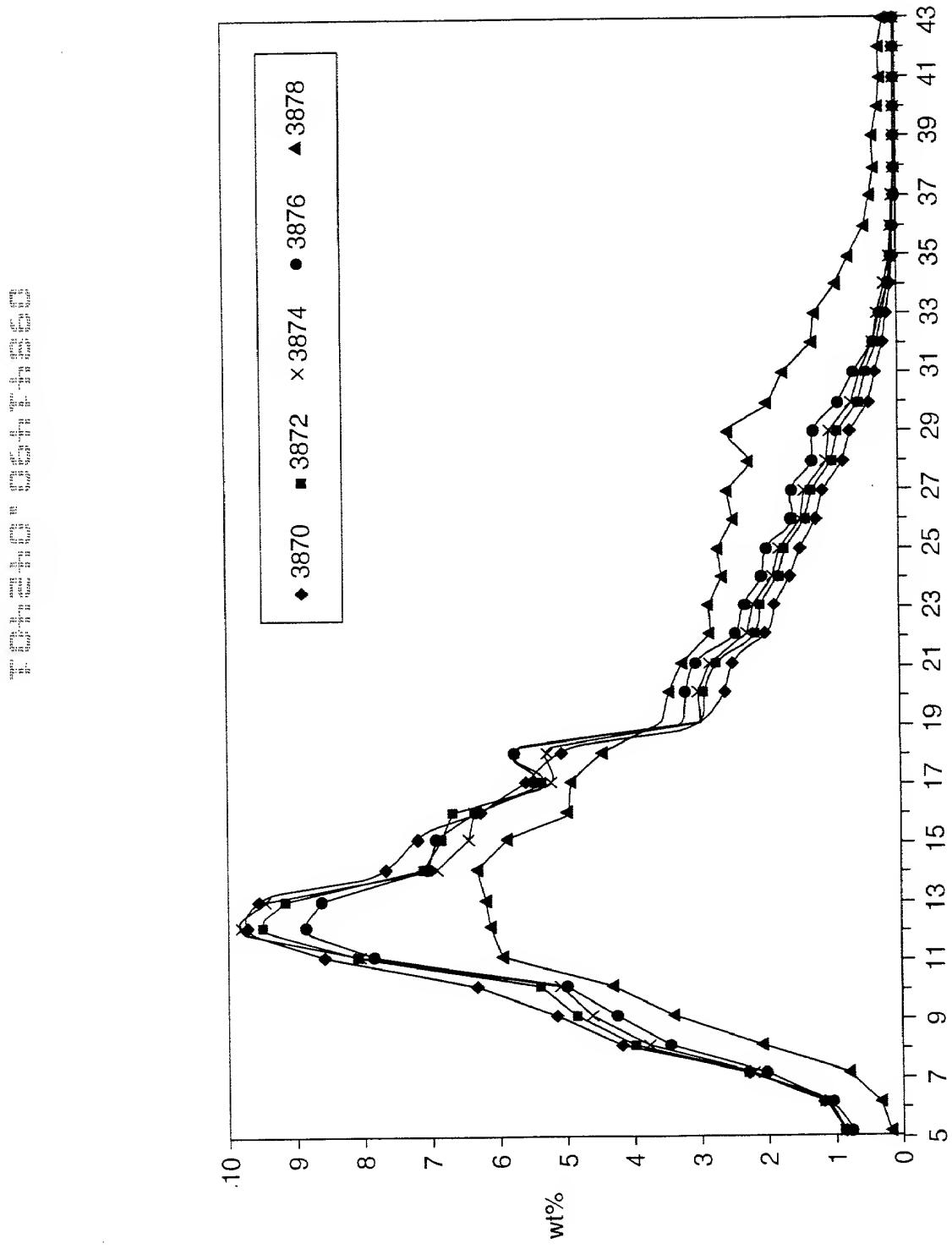


Figure 147 shows the results of a titration experiment. The graph plots the percentage of carbon dioxide ( $\text{CO}_2$ ) against time ( $t$  in minutes). The curve shows two distinct phases: an initial rapid increase followed by a slow, nearly linear decrease.

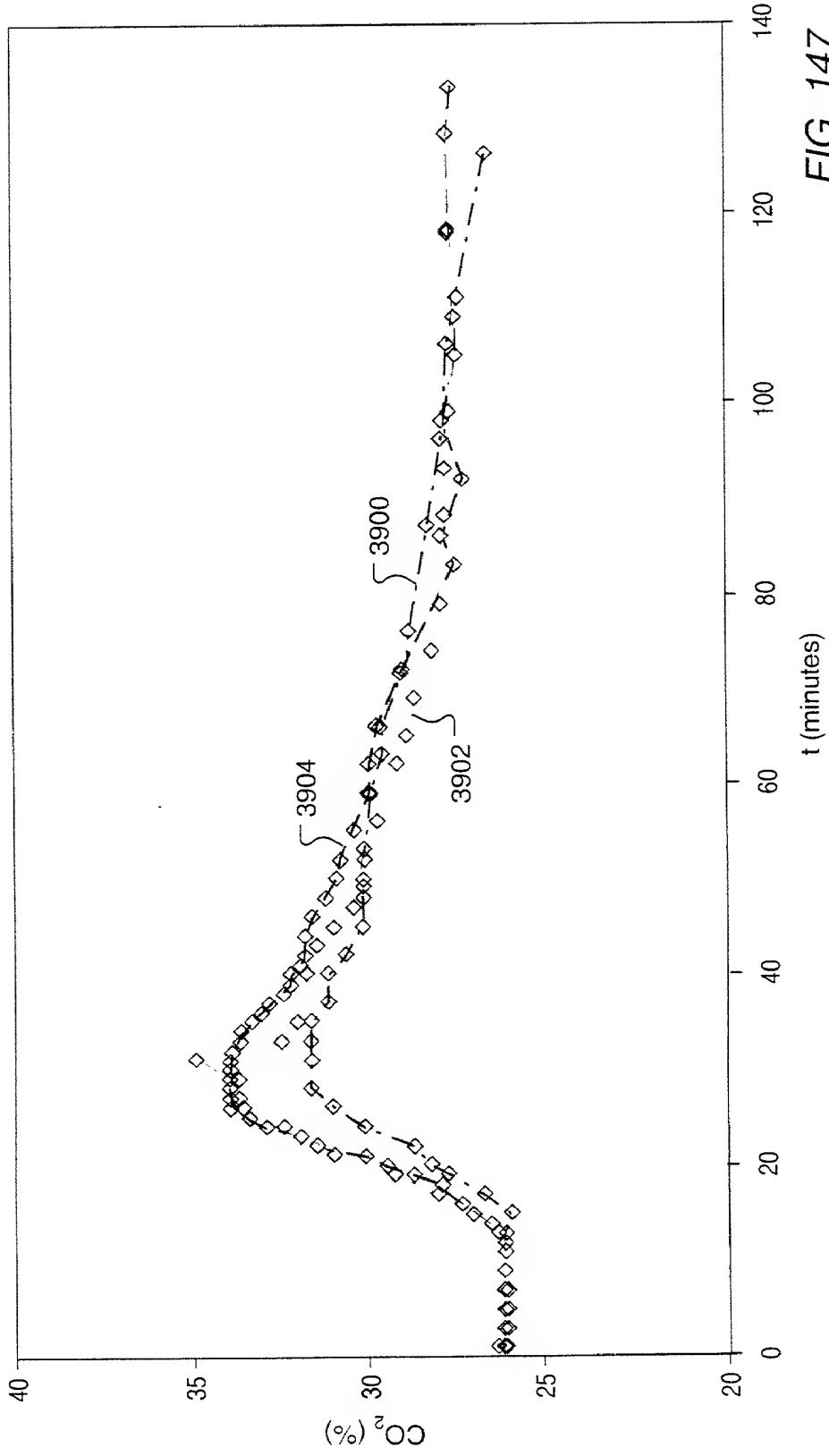
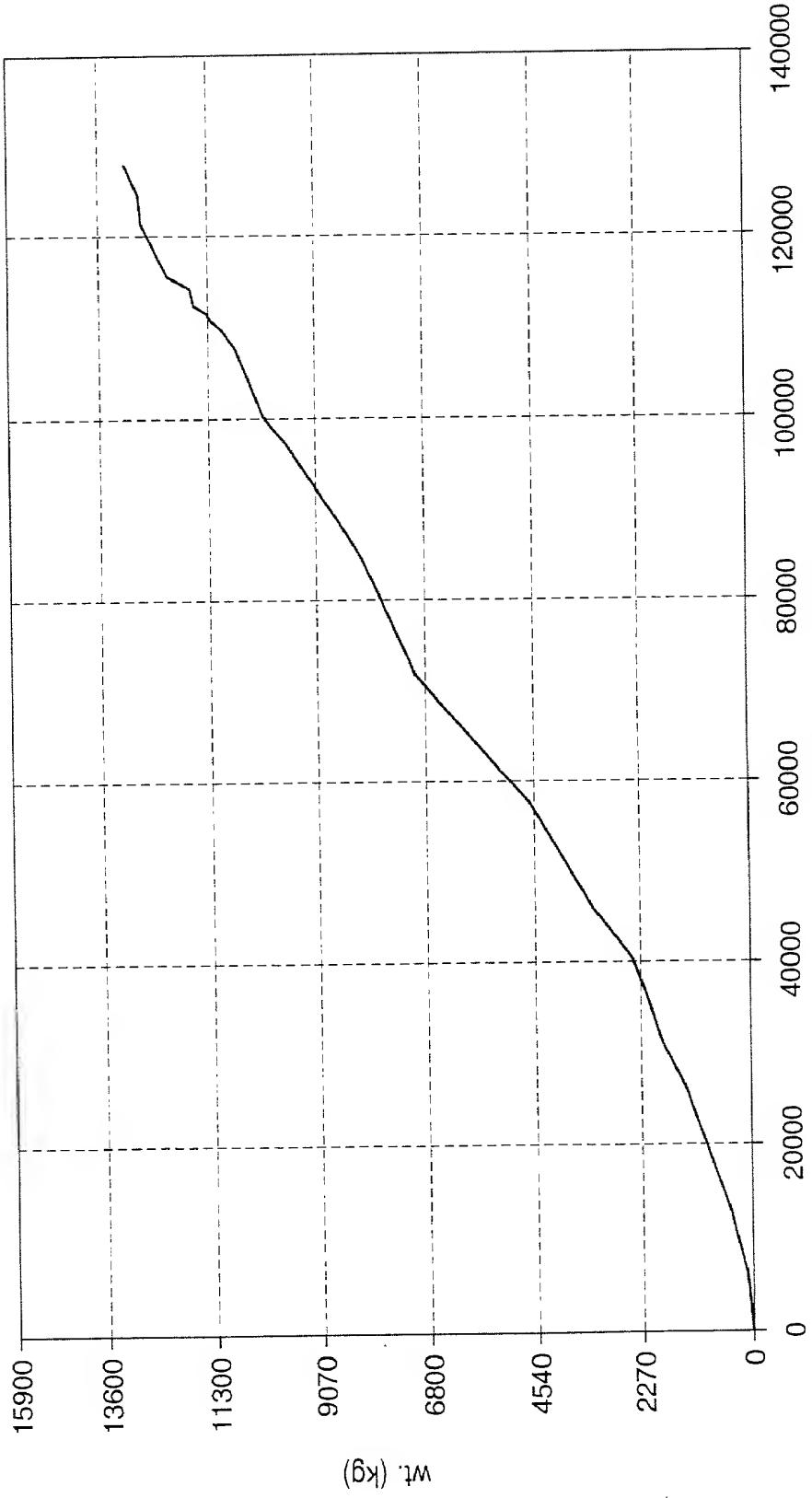
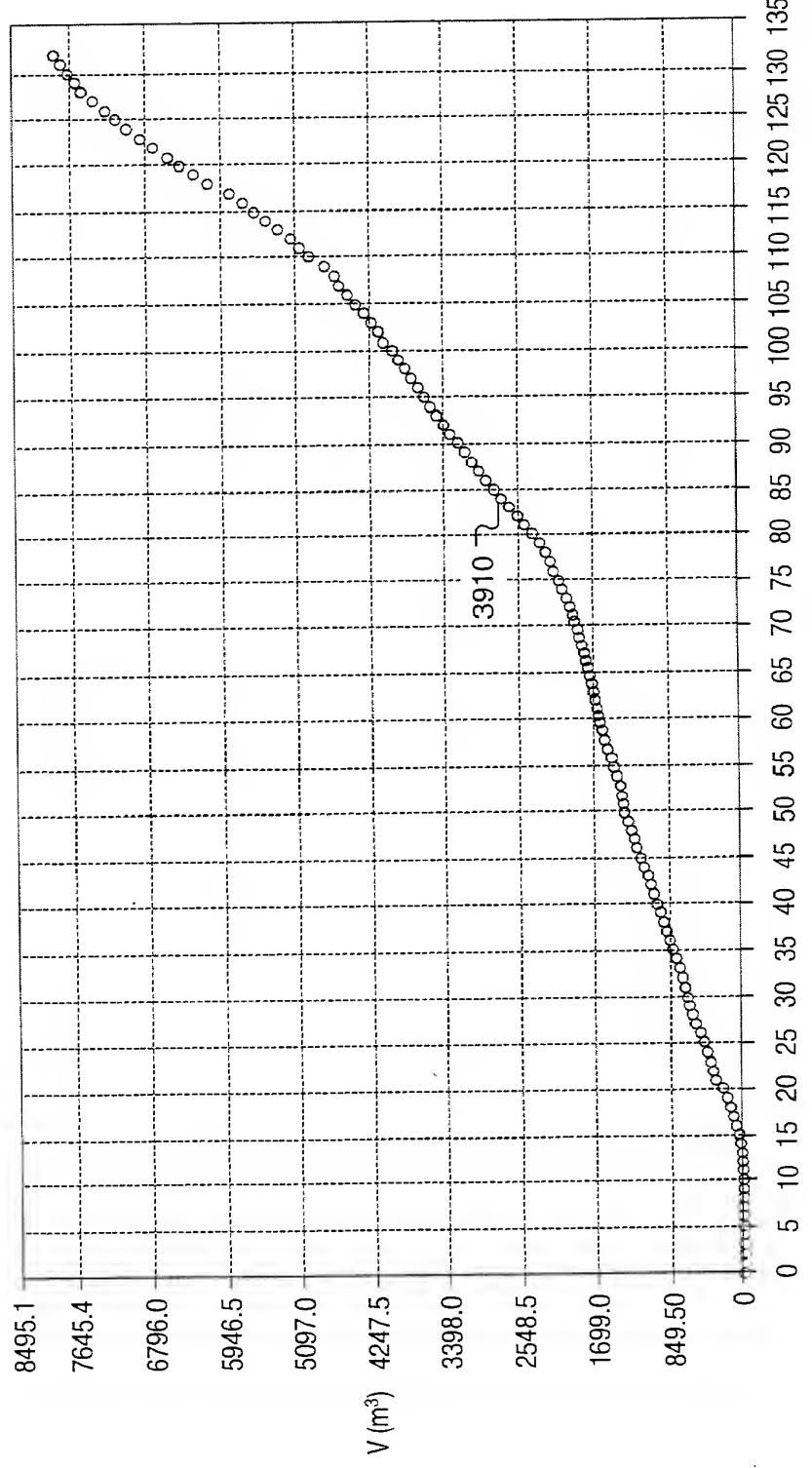


FIG. 147

FIG. 148  
Cumulative Energy  
kw-hr



*FIG. 149*



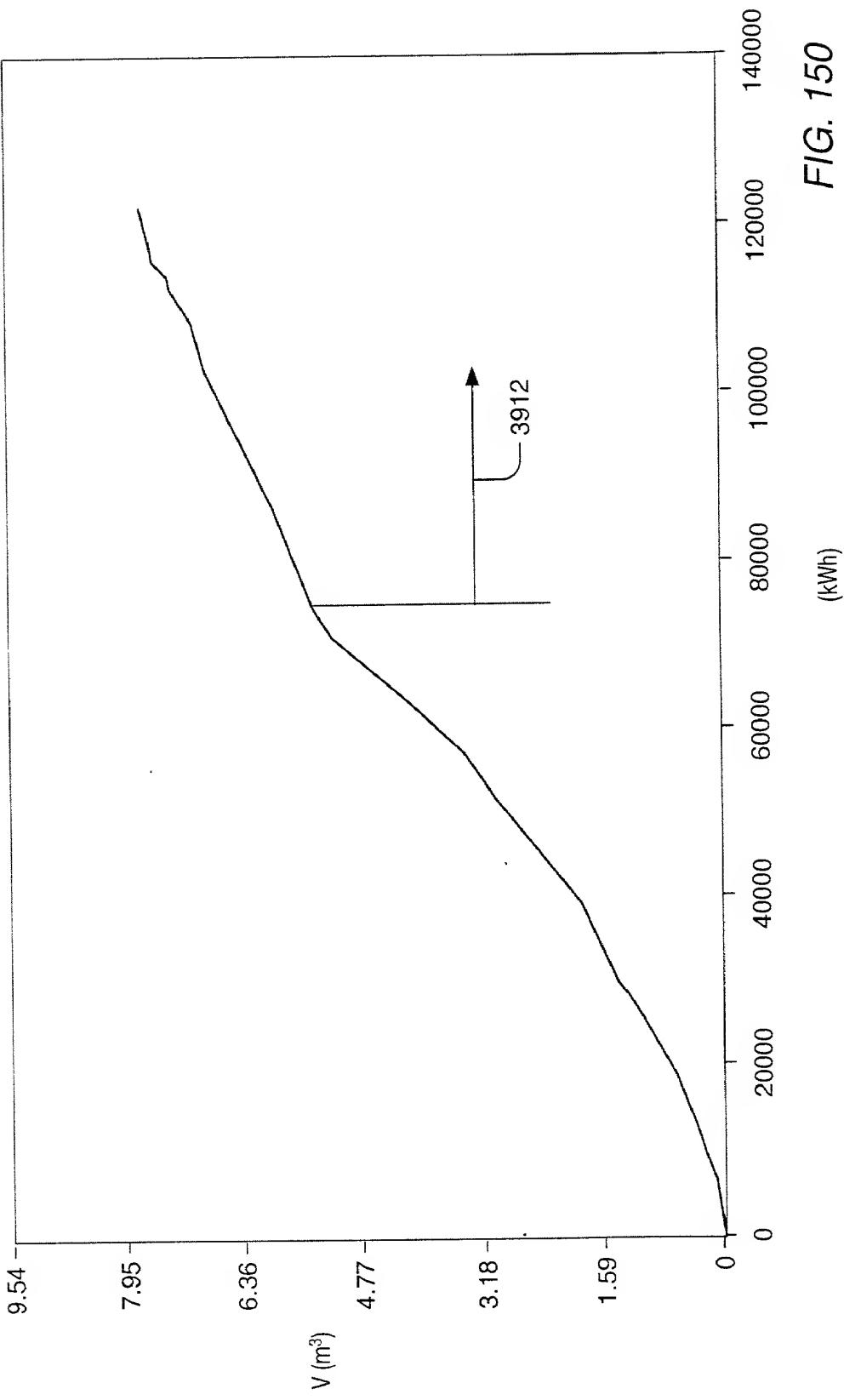


FIG. 150

113  
.0991  
.085  
.0708  
.0566  
.0425  
.0283  
.0142

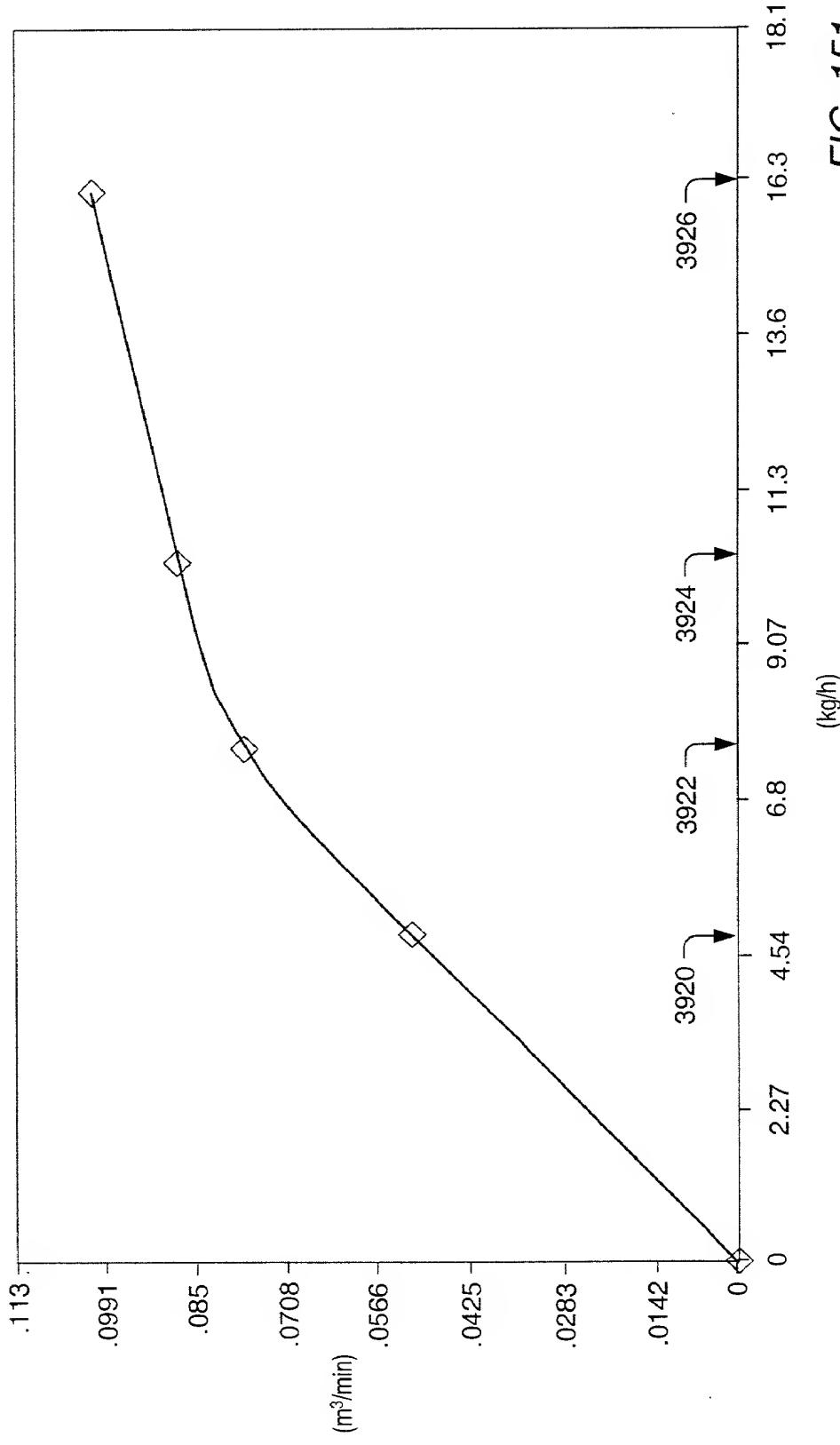


FIG. 151

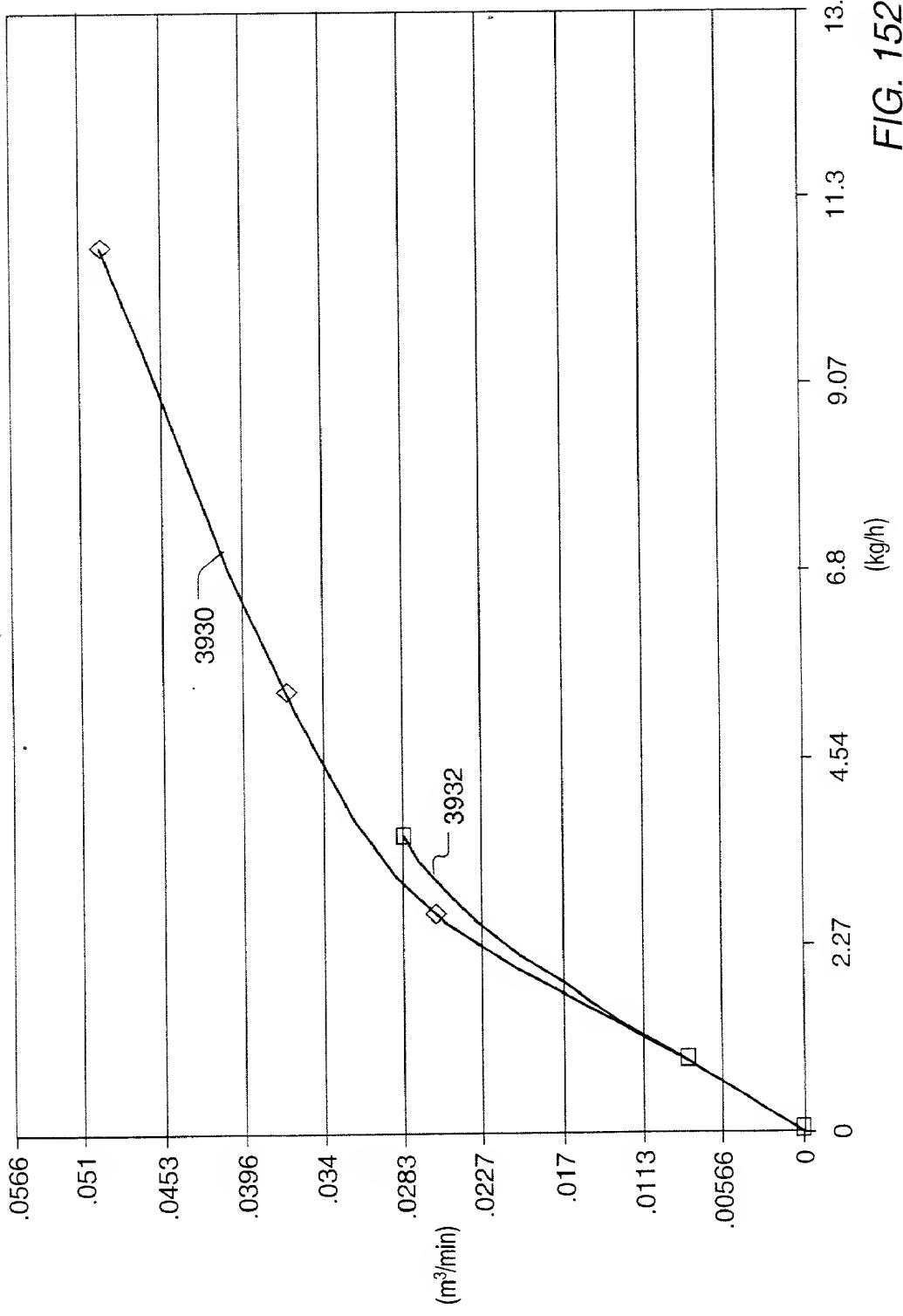


FIG. 152

FIG. 153  
Methane Injection Rate ( $\text{m}^3/\text{hr}$ )

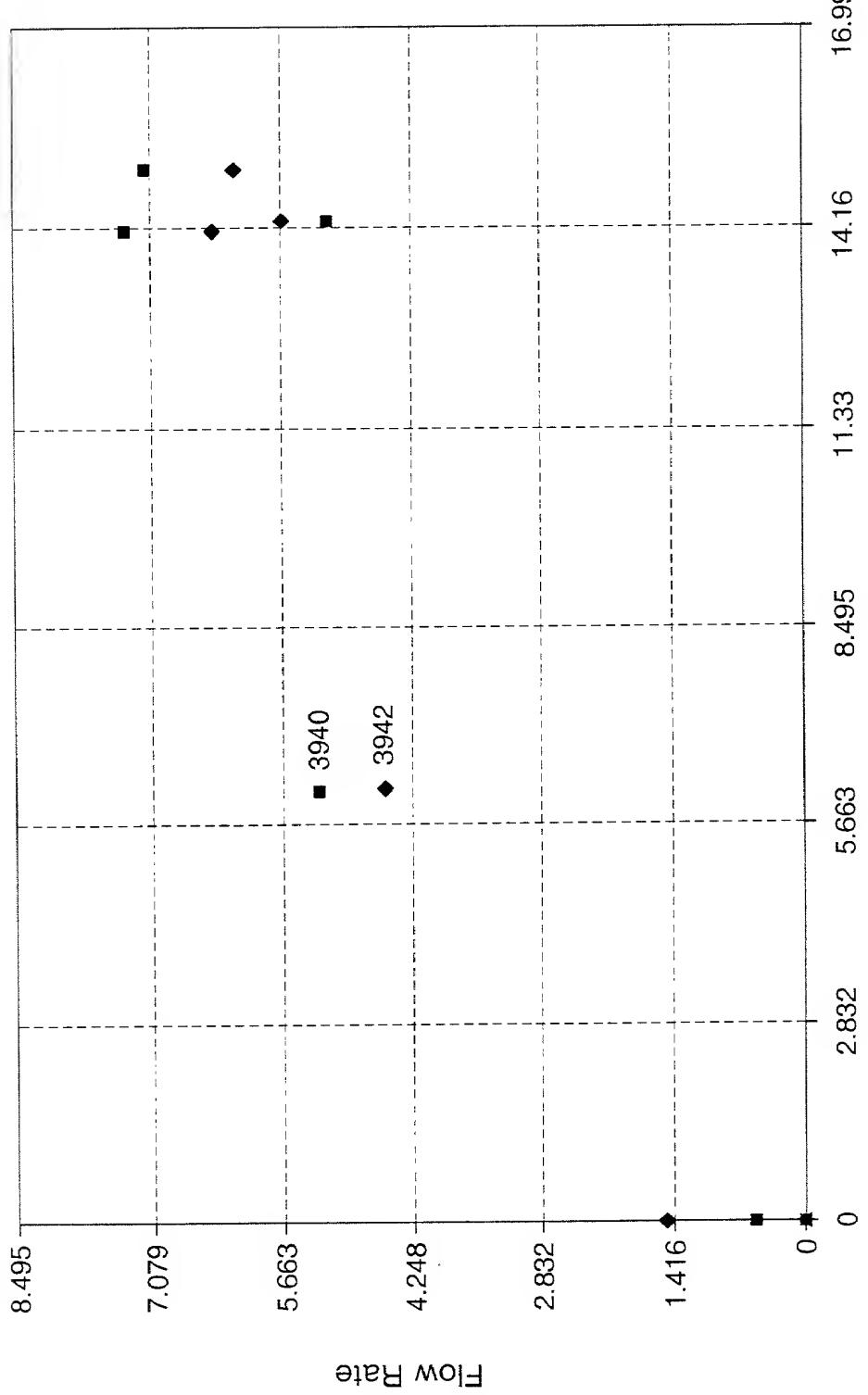
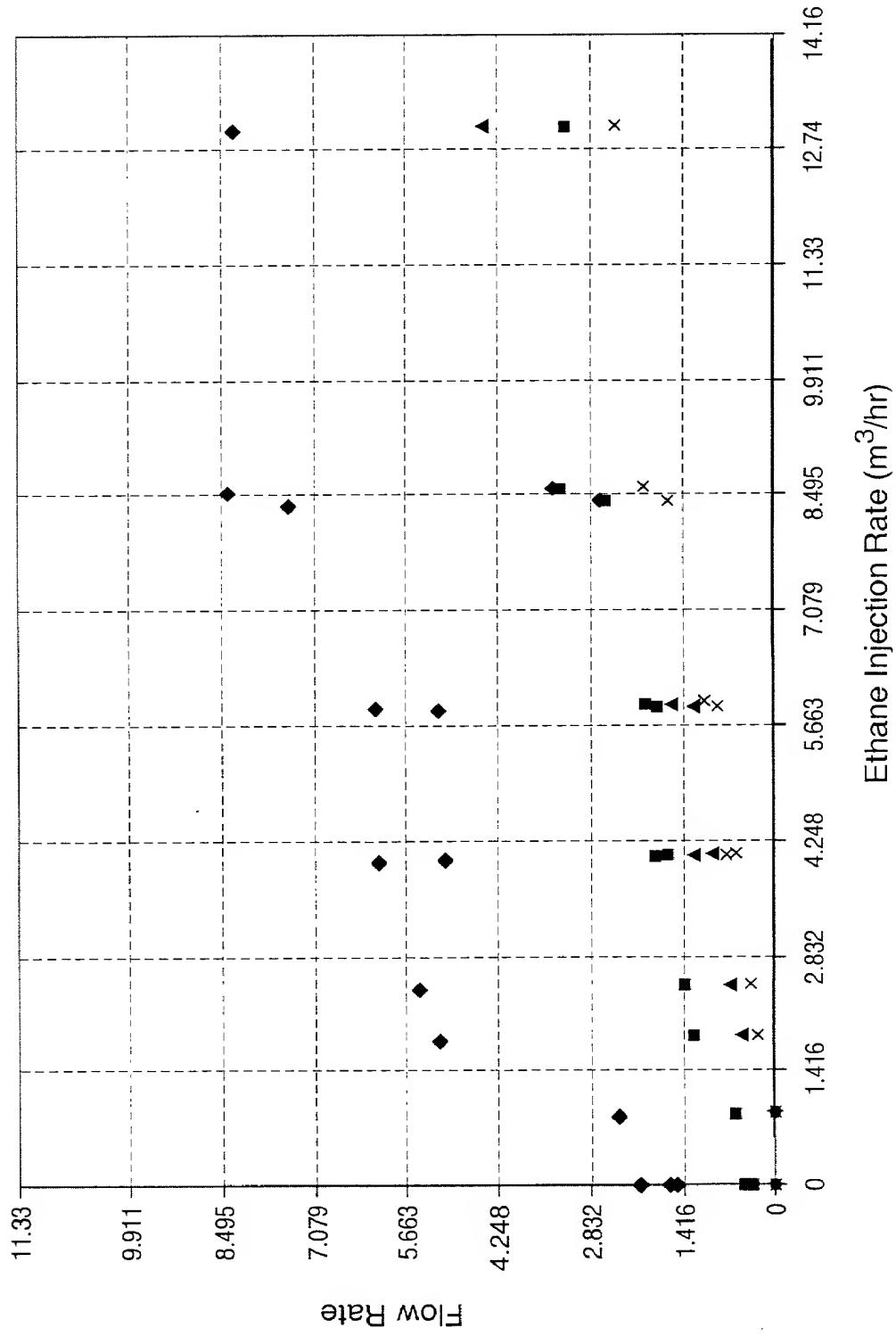


FIG. 154



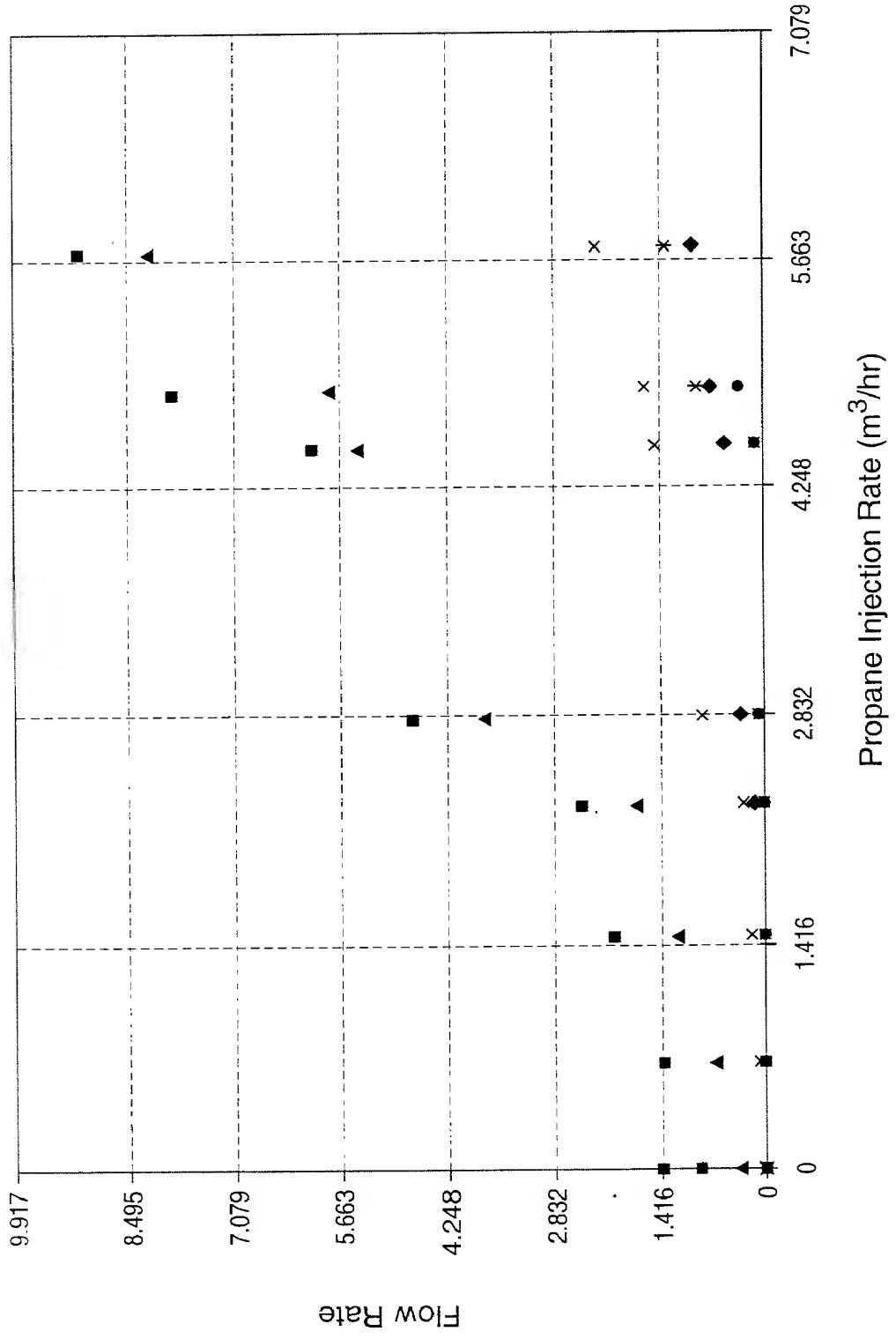


FIG. 155

FIG. 156

Butane Injection Rate ( $\text{m}^3/\text{hr}$ )

■ 3970 ▲ 3972 ◆ 3974 \* 3976 × 3978 ● 3979 • 3979

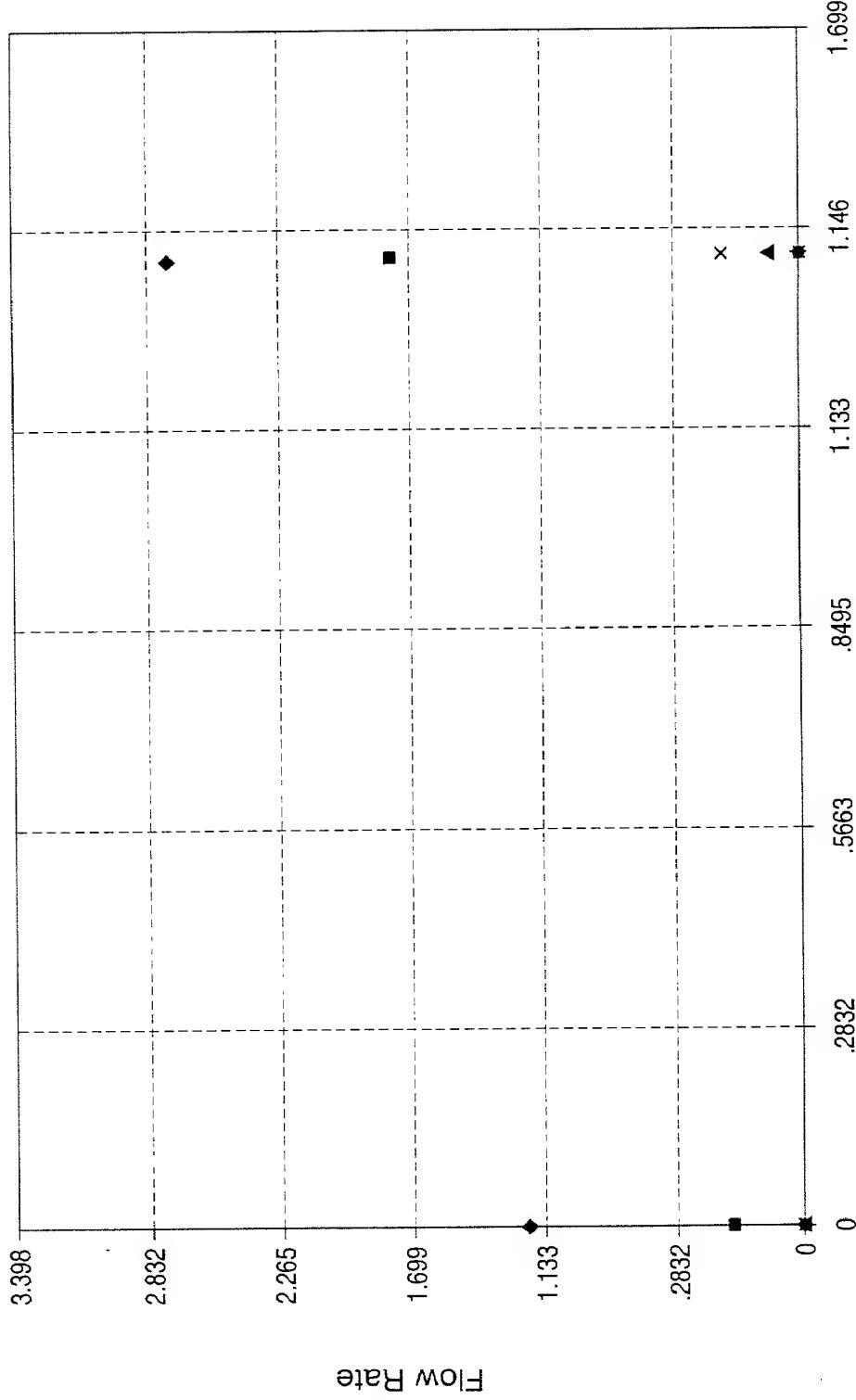
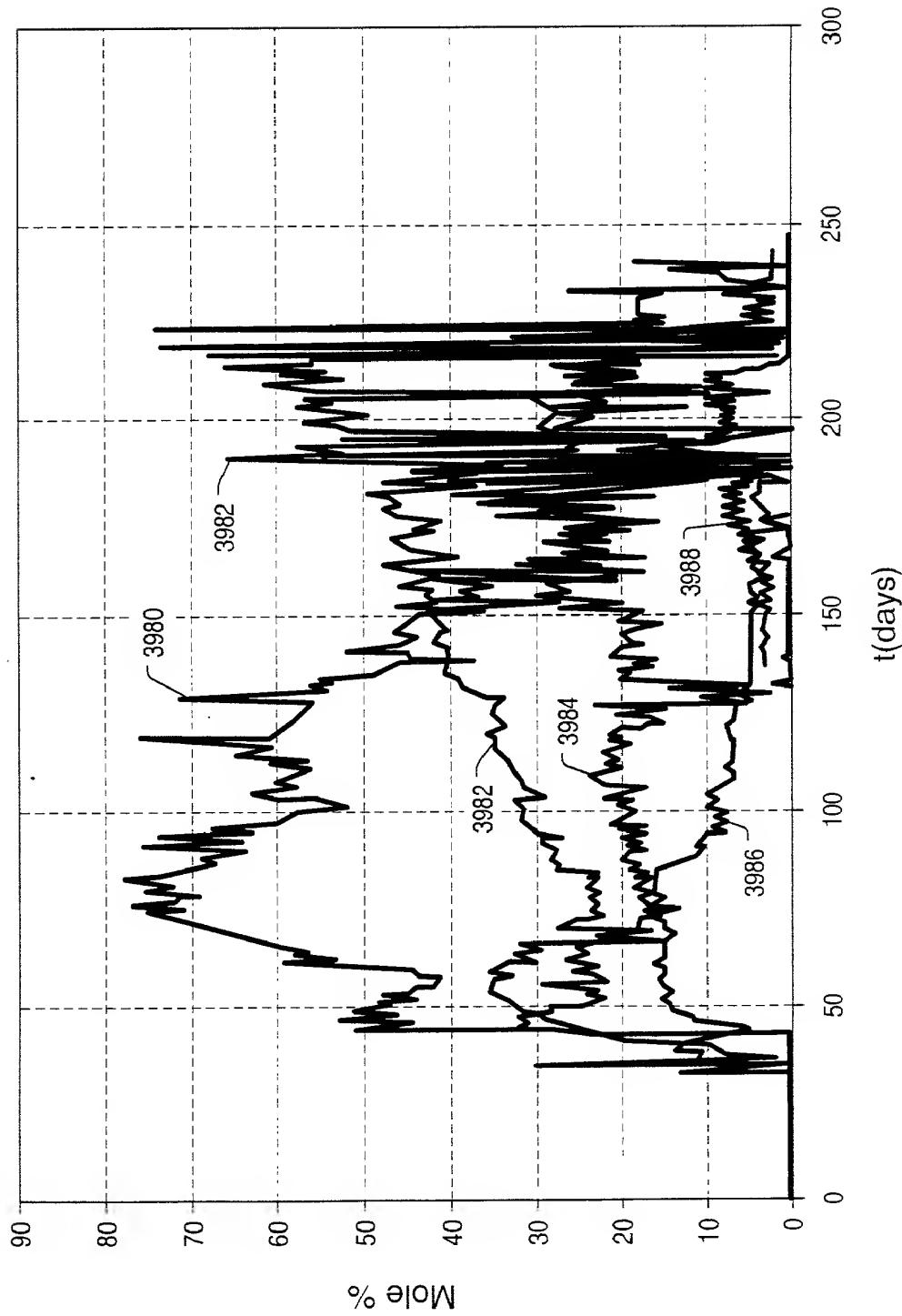


FIG. 157



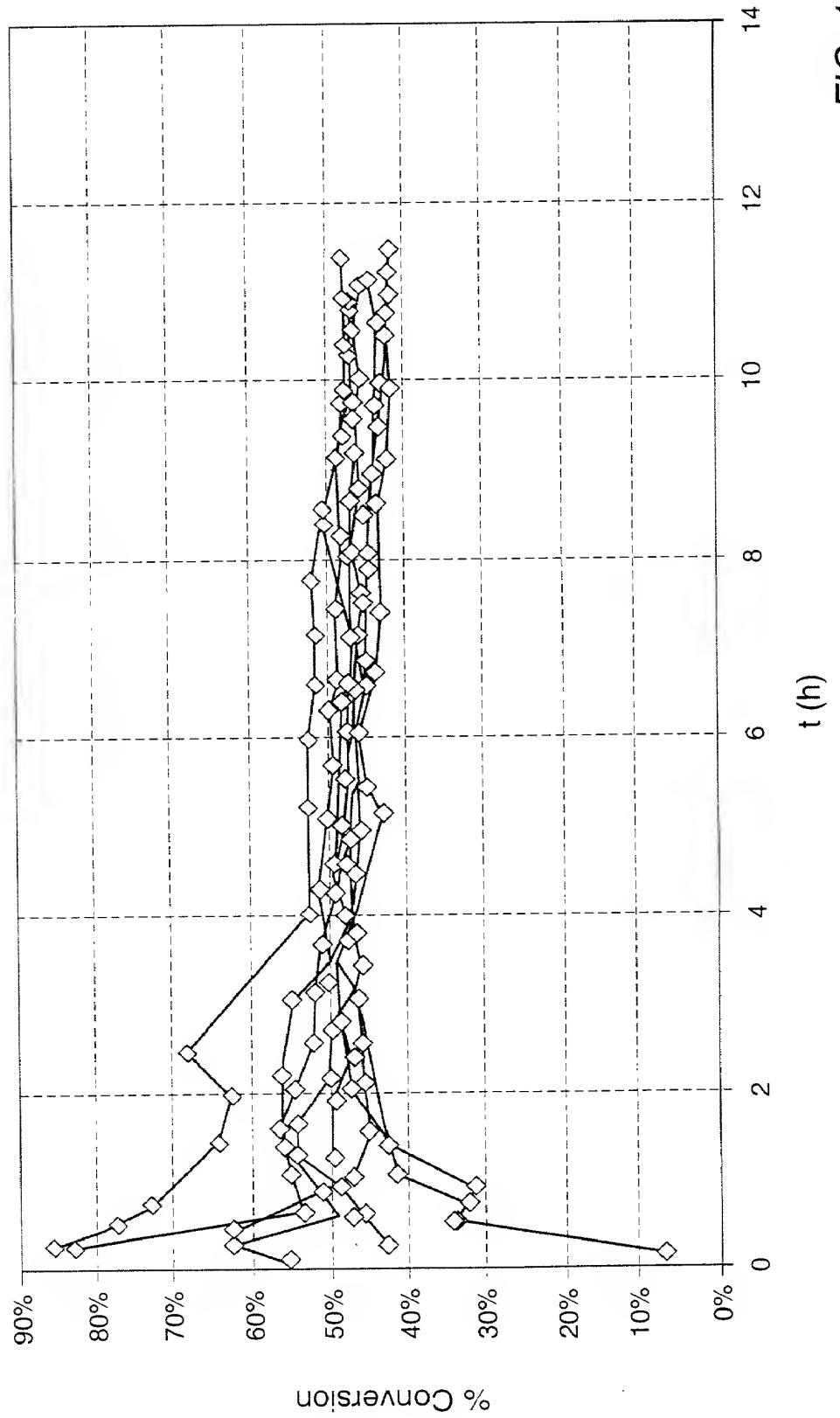


FIG. 158

FIG. 159

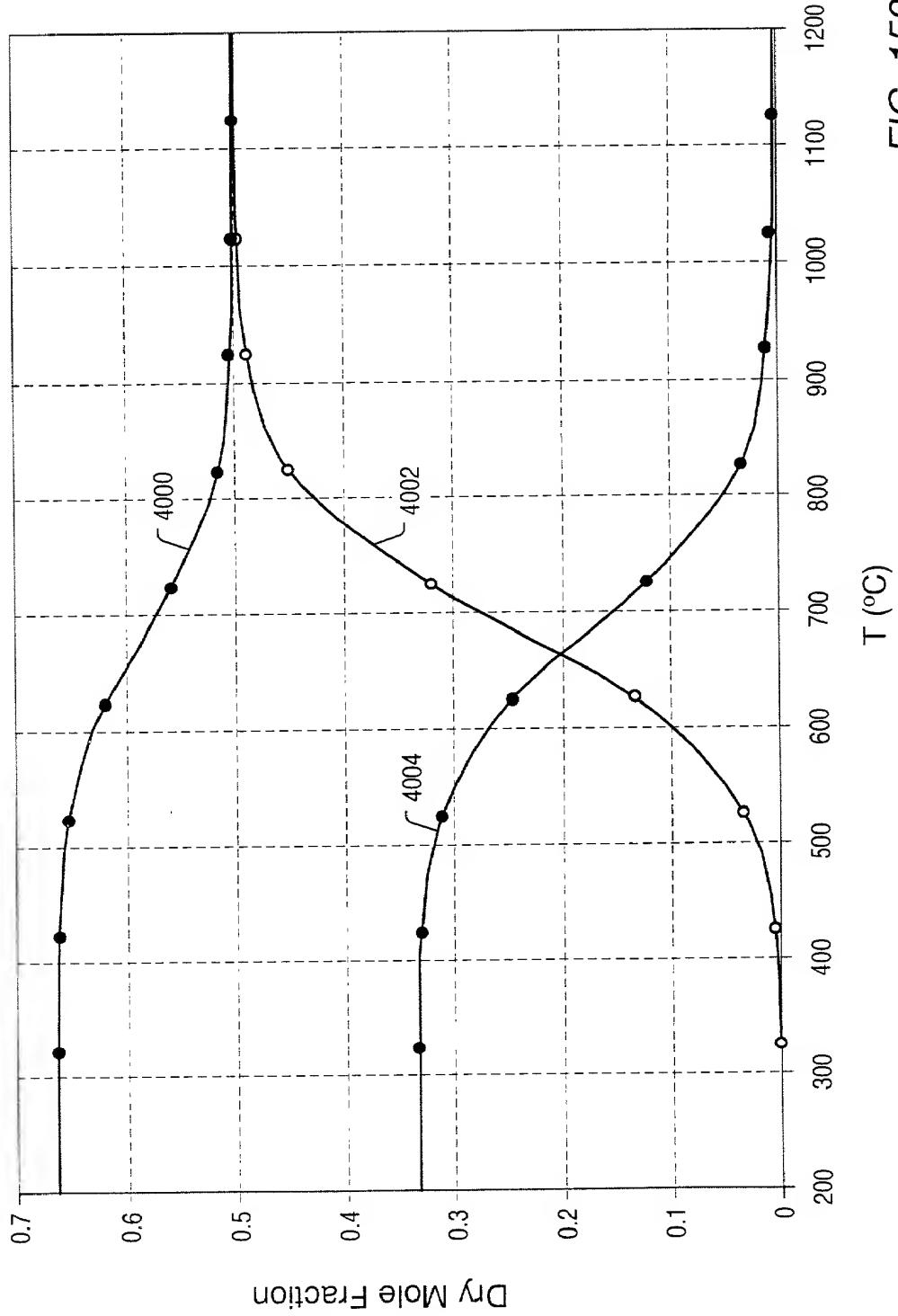


FIG. 160

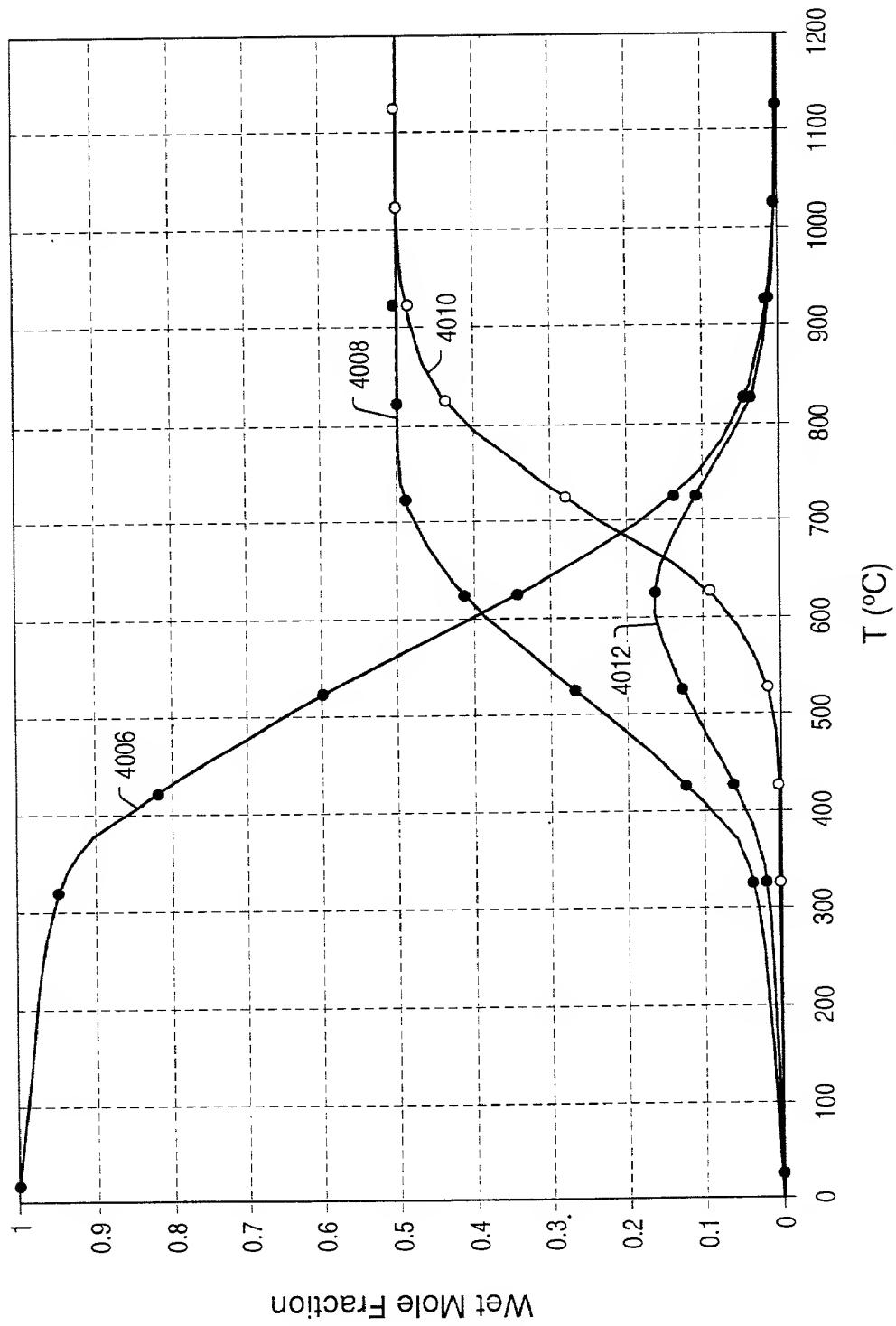
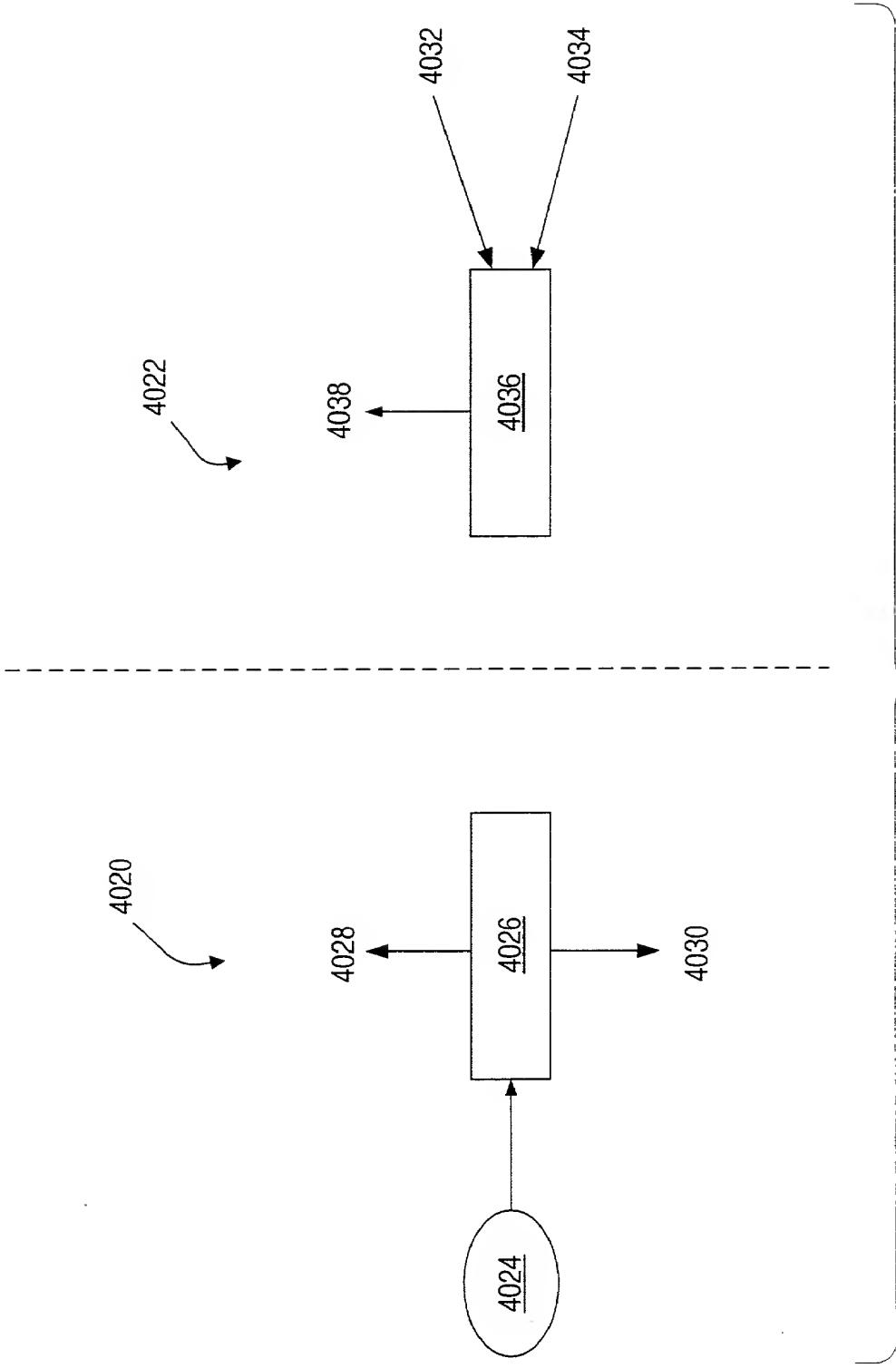


FIG. 161



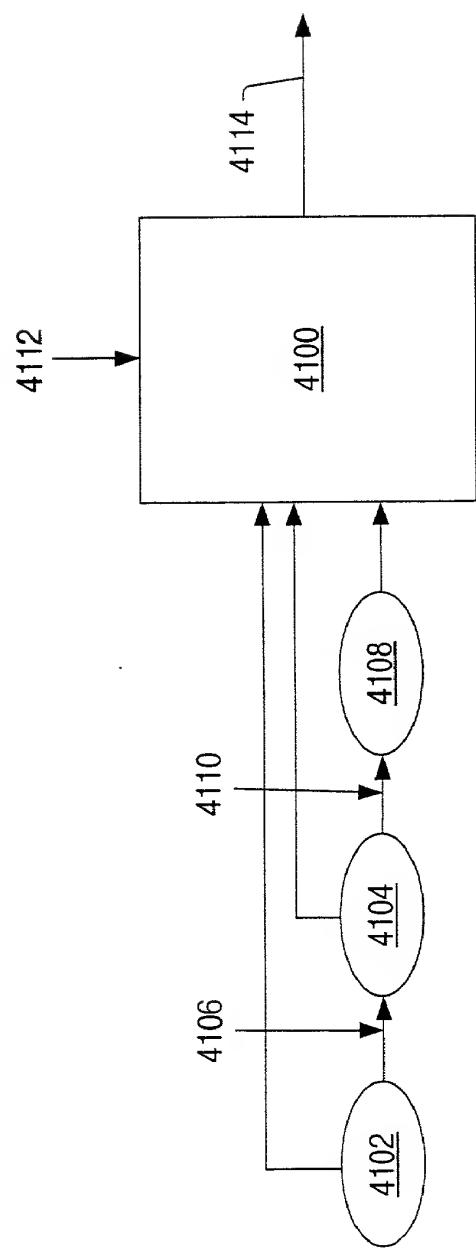


FIG. 162

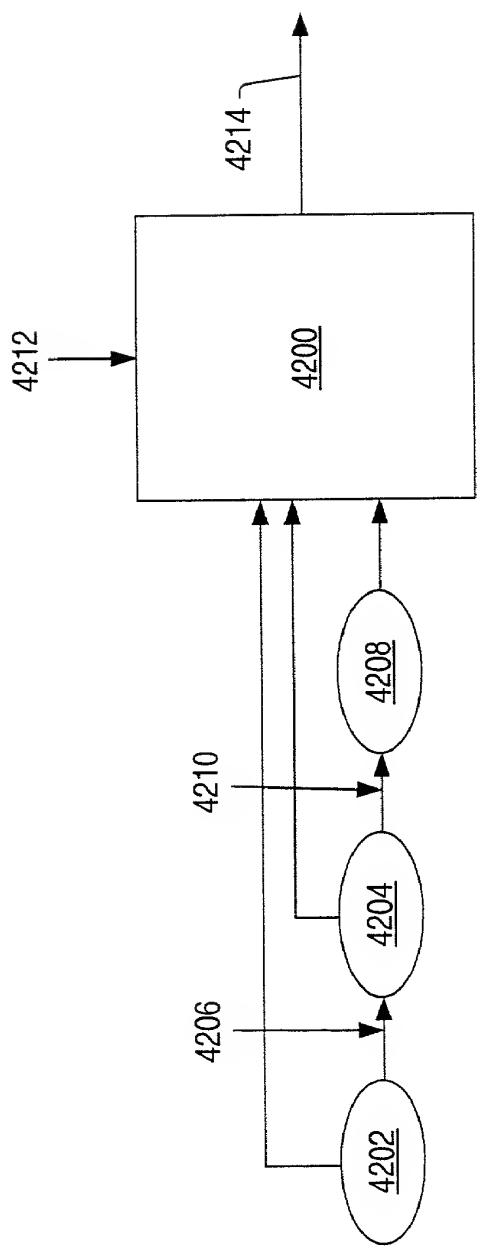


FIG. 163

temp.  $\frac{d^2\eta}{dt^2}$   $\frac{d^3\eta}{dt^3}$   $\frac{d^4\eta}{dt^4}$   $\frac{d^5\eta}{dt^5}$   $\frac{d^6\eta}{dt^6}$   $\frac{d^7\eta}{dt^7}$   $\frac{d^8\eta}{dt^8}$   $\frac{d^9\eta}{dt^9}$   $\frac{d^{10}\eta}{dt^{10}}$   
 $\frac{d^2\eta}{dt^2}$   $\frac{d^3\eta}{dt^3}$   $\frac{d^4\eta}{dt^4}$   $\frac{d^5\eta}{dt^5}$   $\frac{d^6\eta}{dt^6}$   $\frac{d^7\eta}{dt^7}$   $\frac{d^8\eta}{dt^8}$   $\frac{d^9\eta}{dt^9}$   $\frac{d^{10}\eta}{dt^{10}}$   
 $\frac{d^2\eta}{dt^2}$   $\frac{d^3\eta}{dt^3}$   $\frac{d^4\eta}{dt^4}$   $\frac{d^5\eta}{dt^5}$   $\frac{d^6\eta}{dt^6}$   $\frac{d^7\eta}{dt^7}$   $\frac{d^8\eta}{dt^8}$   $\frac{d^9\eta}{dt^9}$   $\frac{d^{10}\eta}{dt^{10}}$

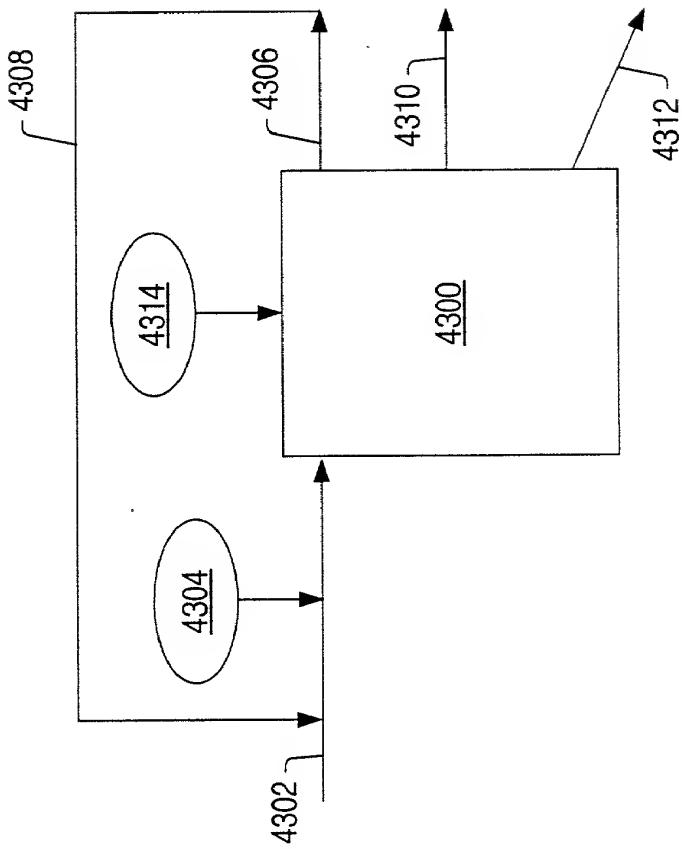
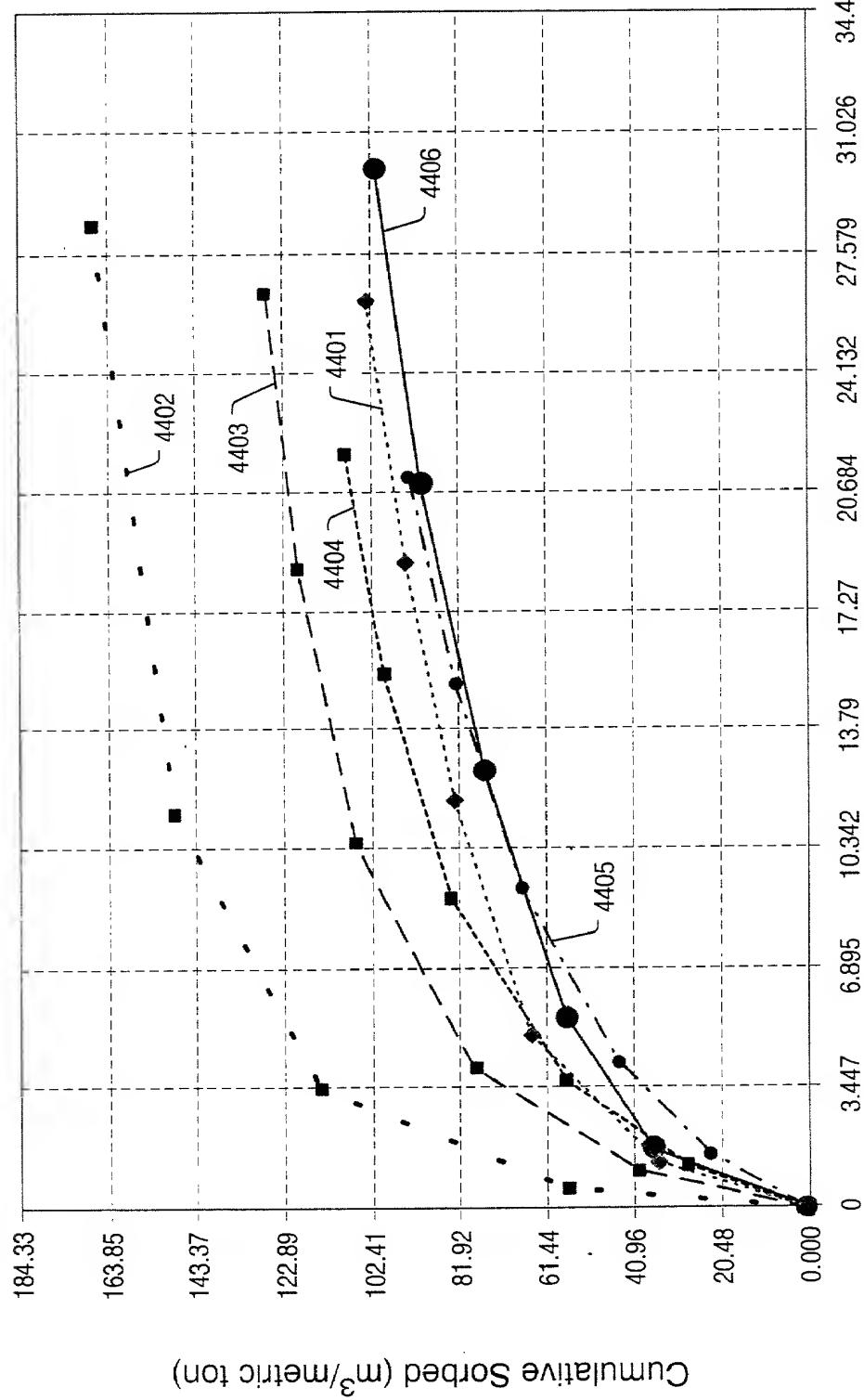


FIG. 164

FIG. 165

Pressure (bars absolute)



4535 4550 4550 4550 4550 4550 4550 4550 4550 4550

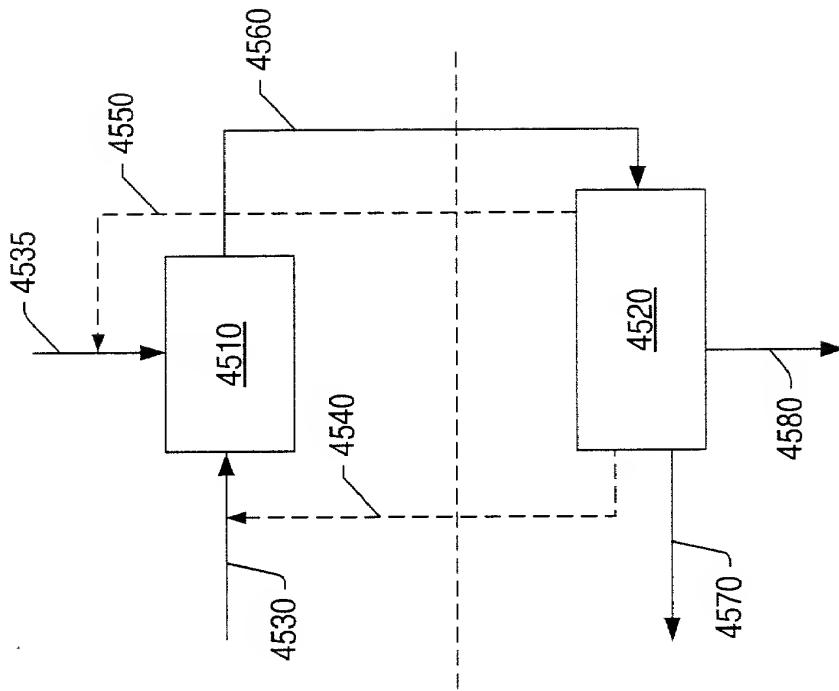


FIG. 166

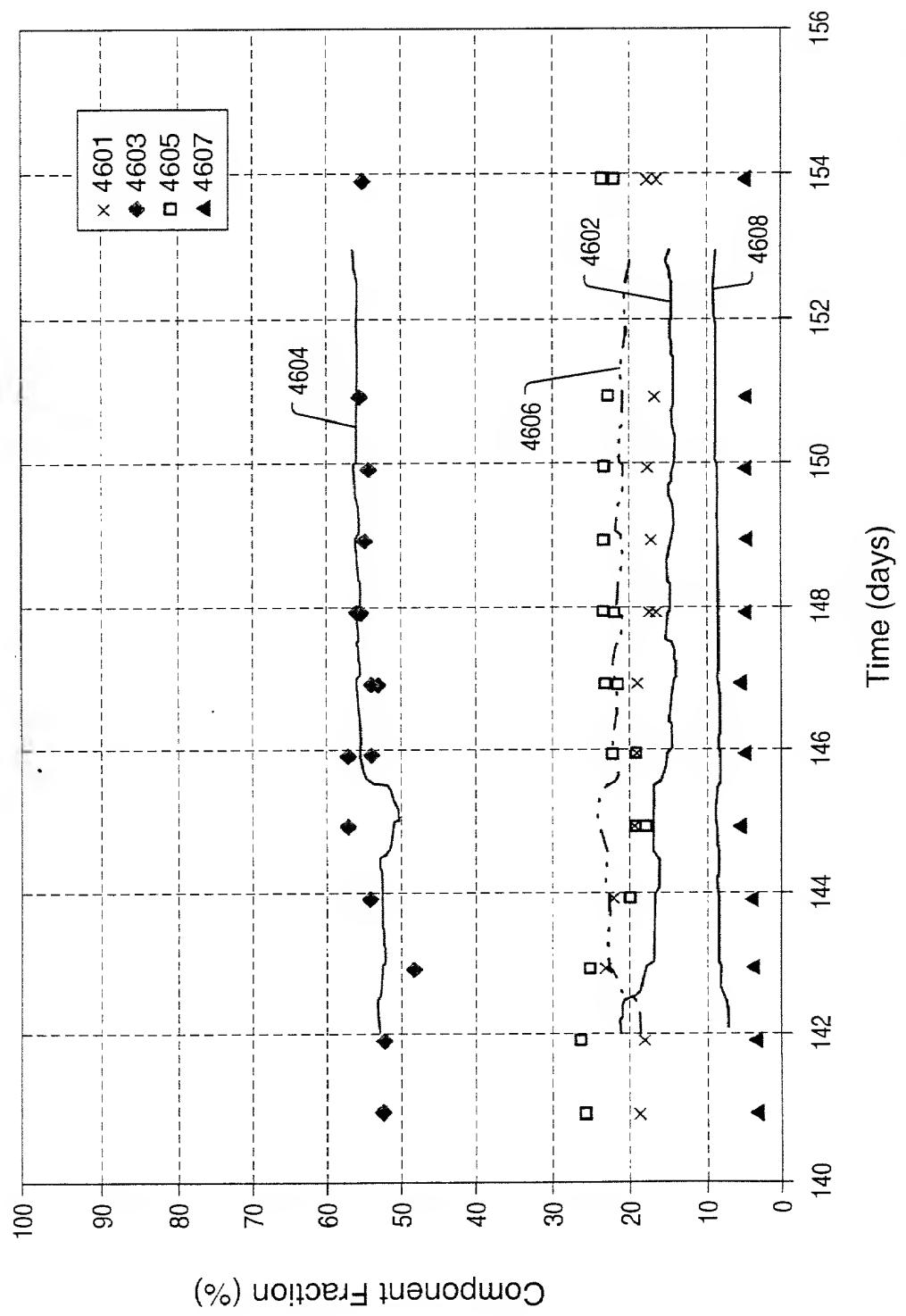
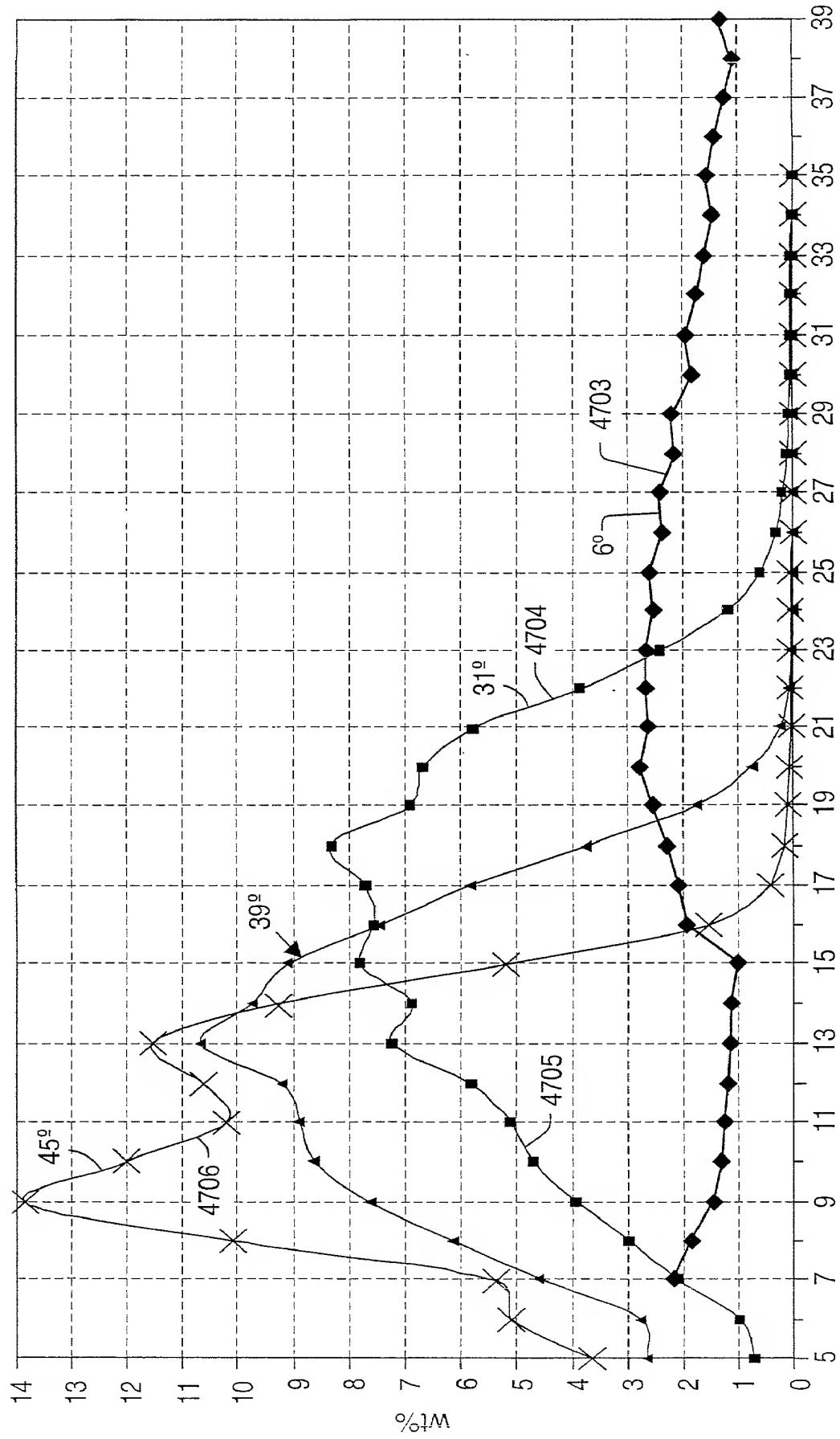


FIG. 167

FIG. 168

Carbon Number



4710 4712 4714 4716

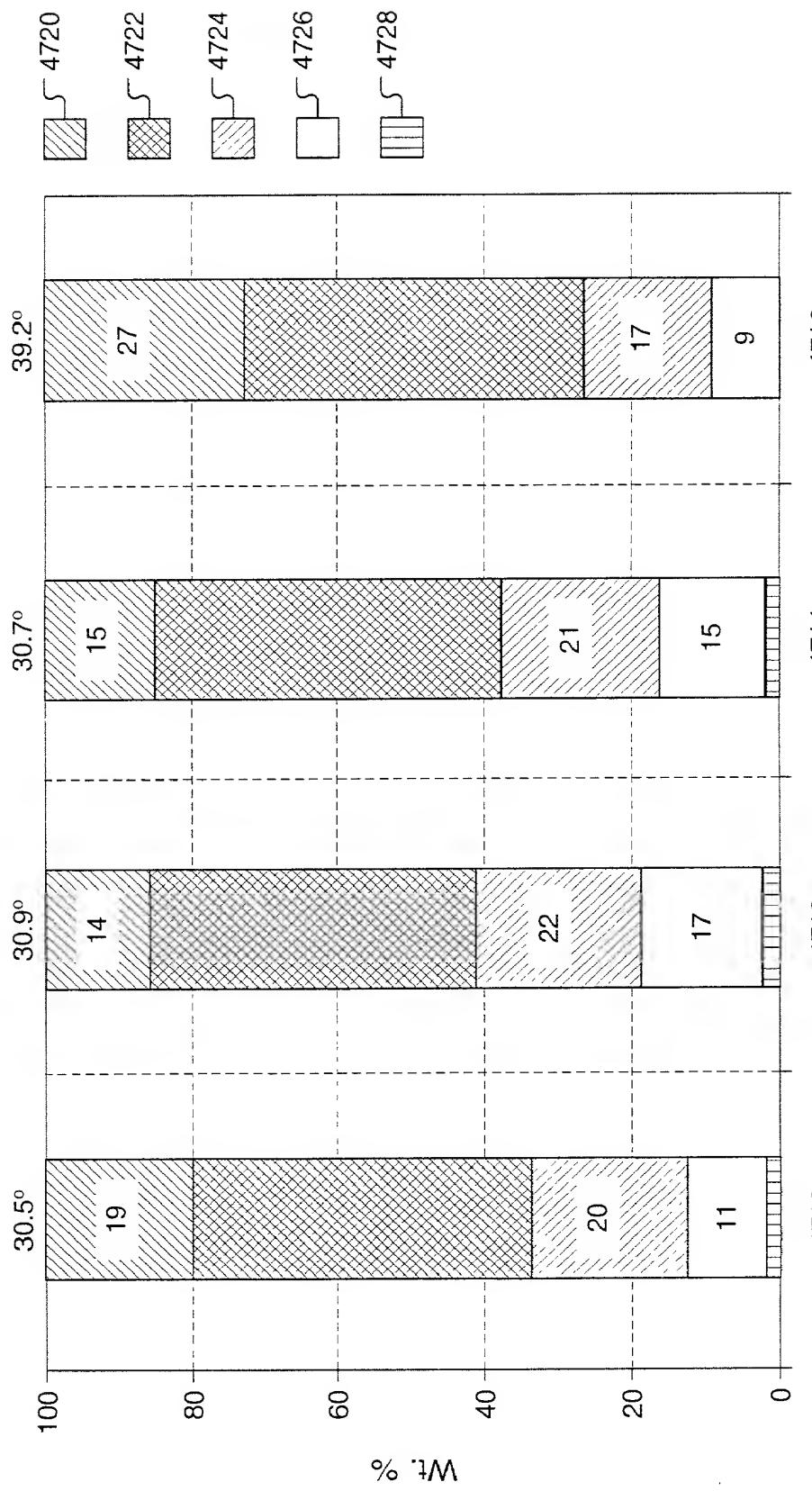


FIG. 169

3975  
3180  
2385  
1590  
795  
0

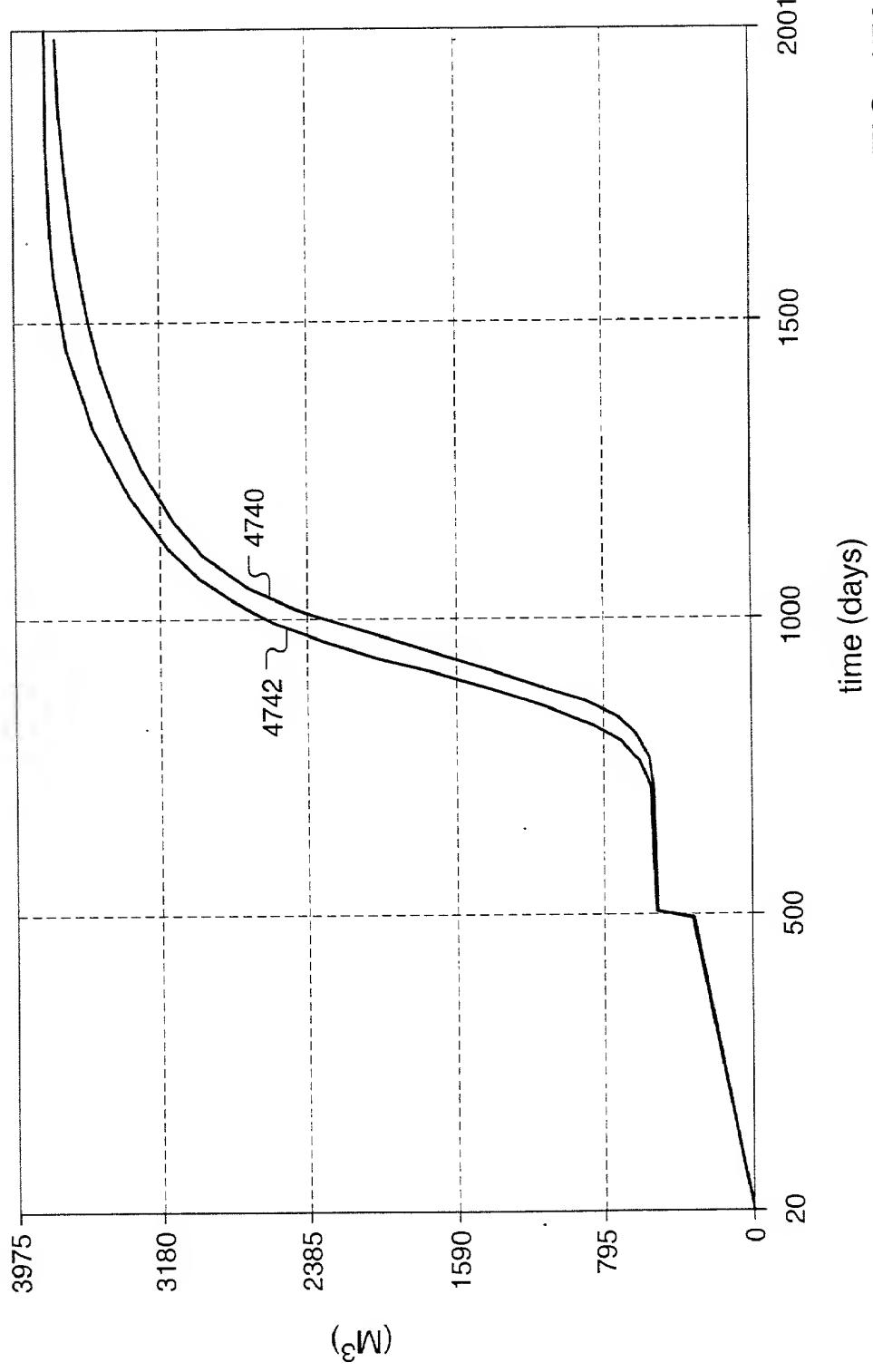


FIG. 170

FIG. 171

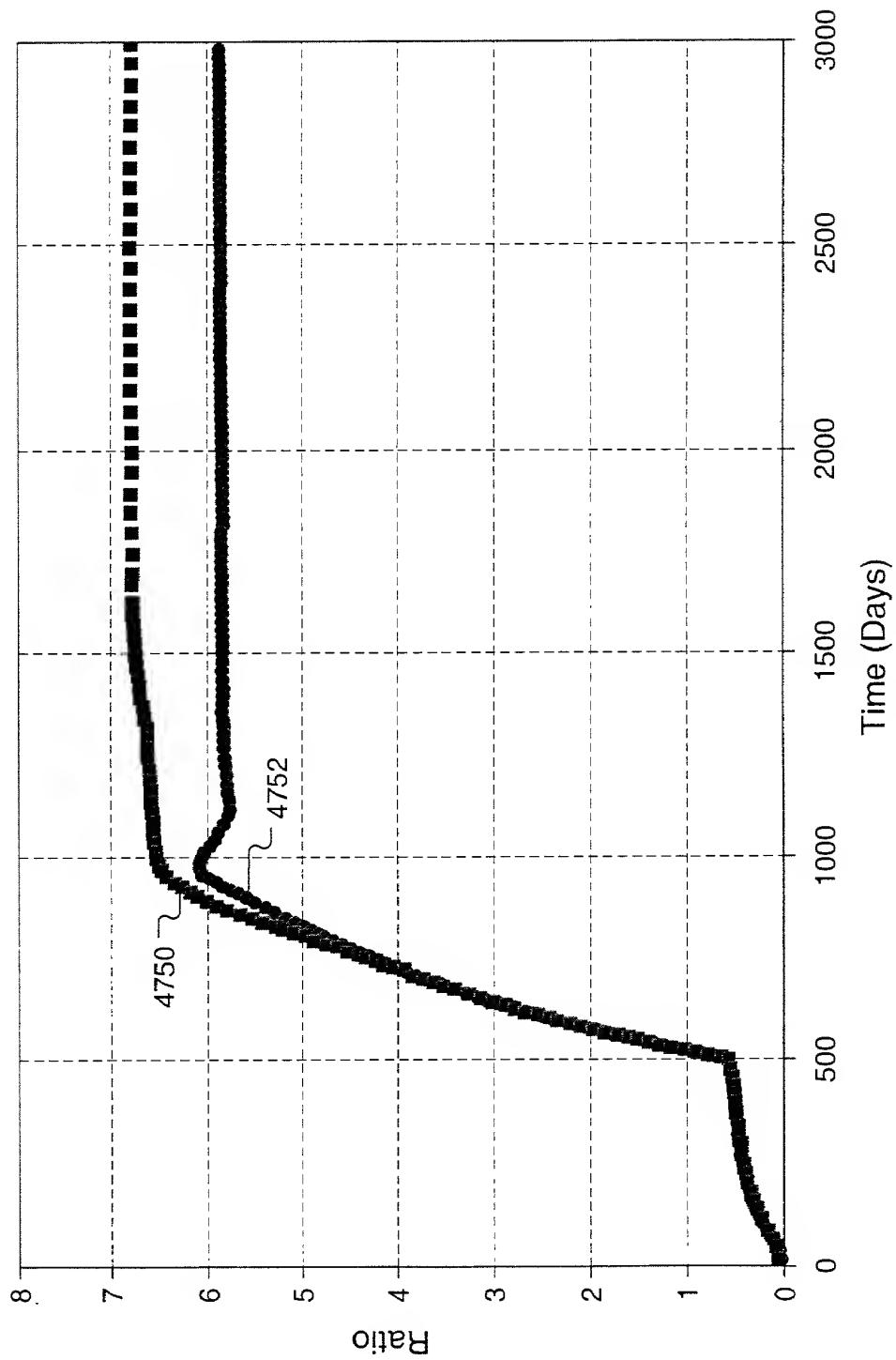


FIG. 172

Carbon Number

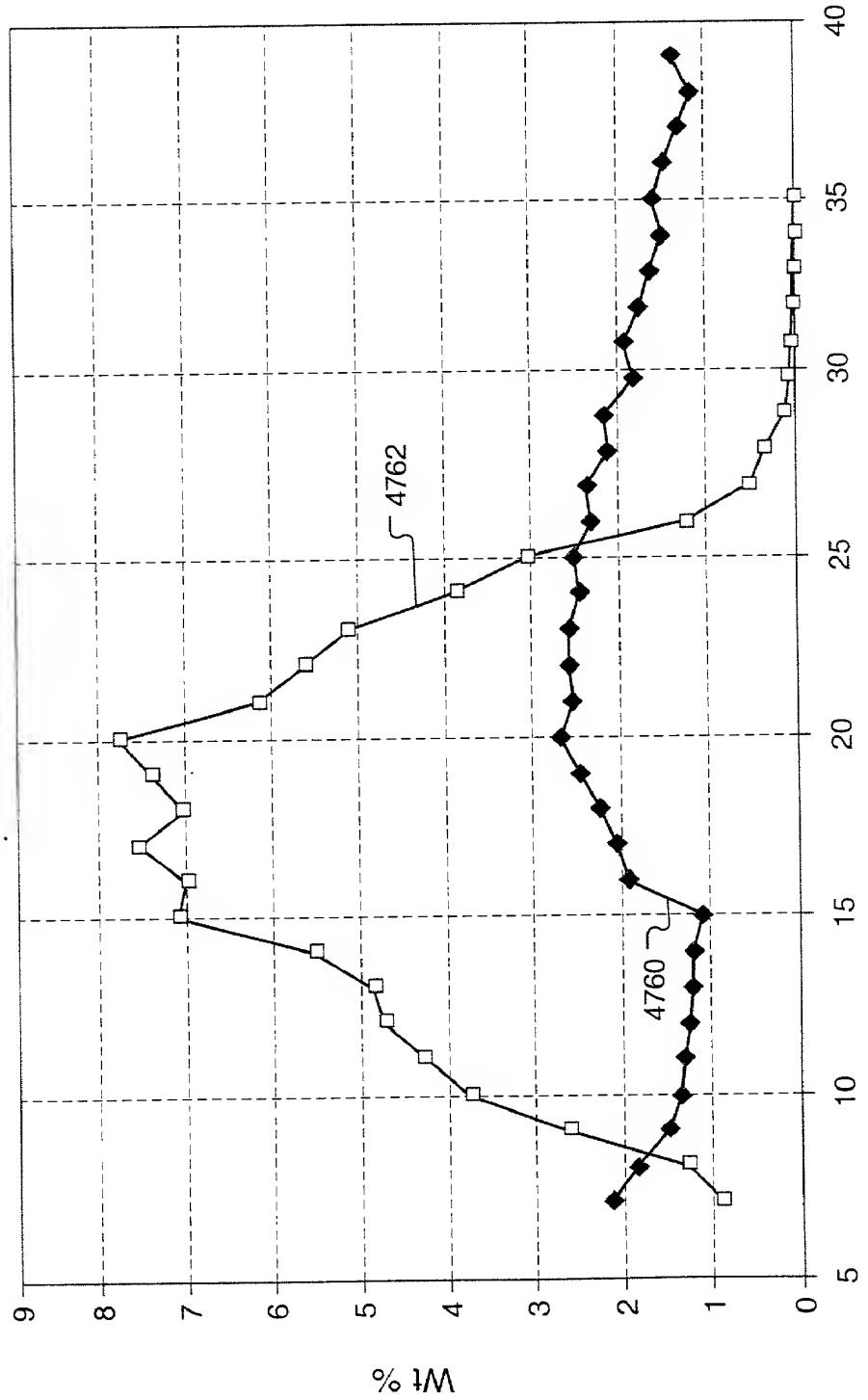


FIG. 173

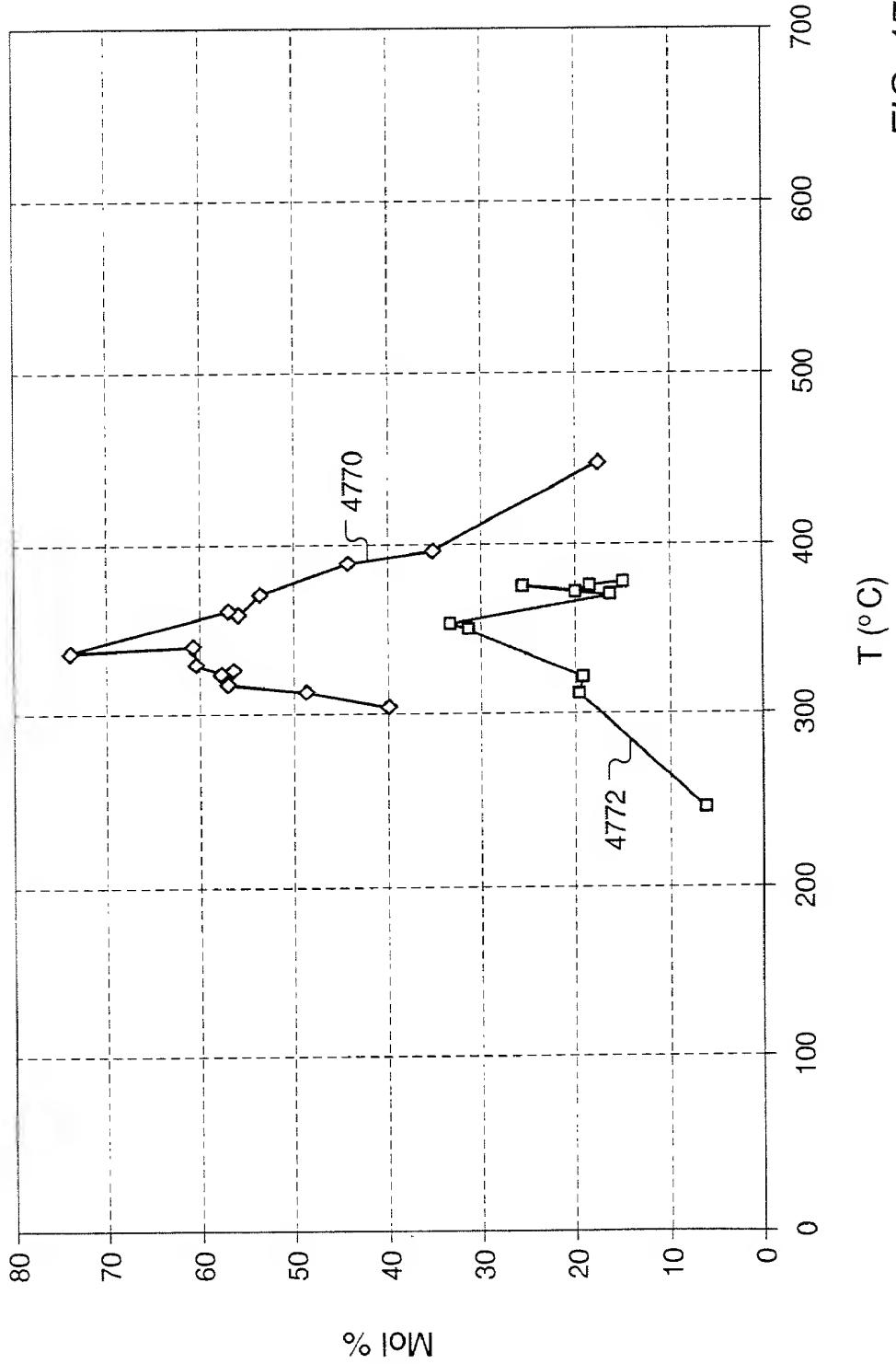


FIG. 174

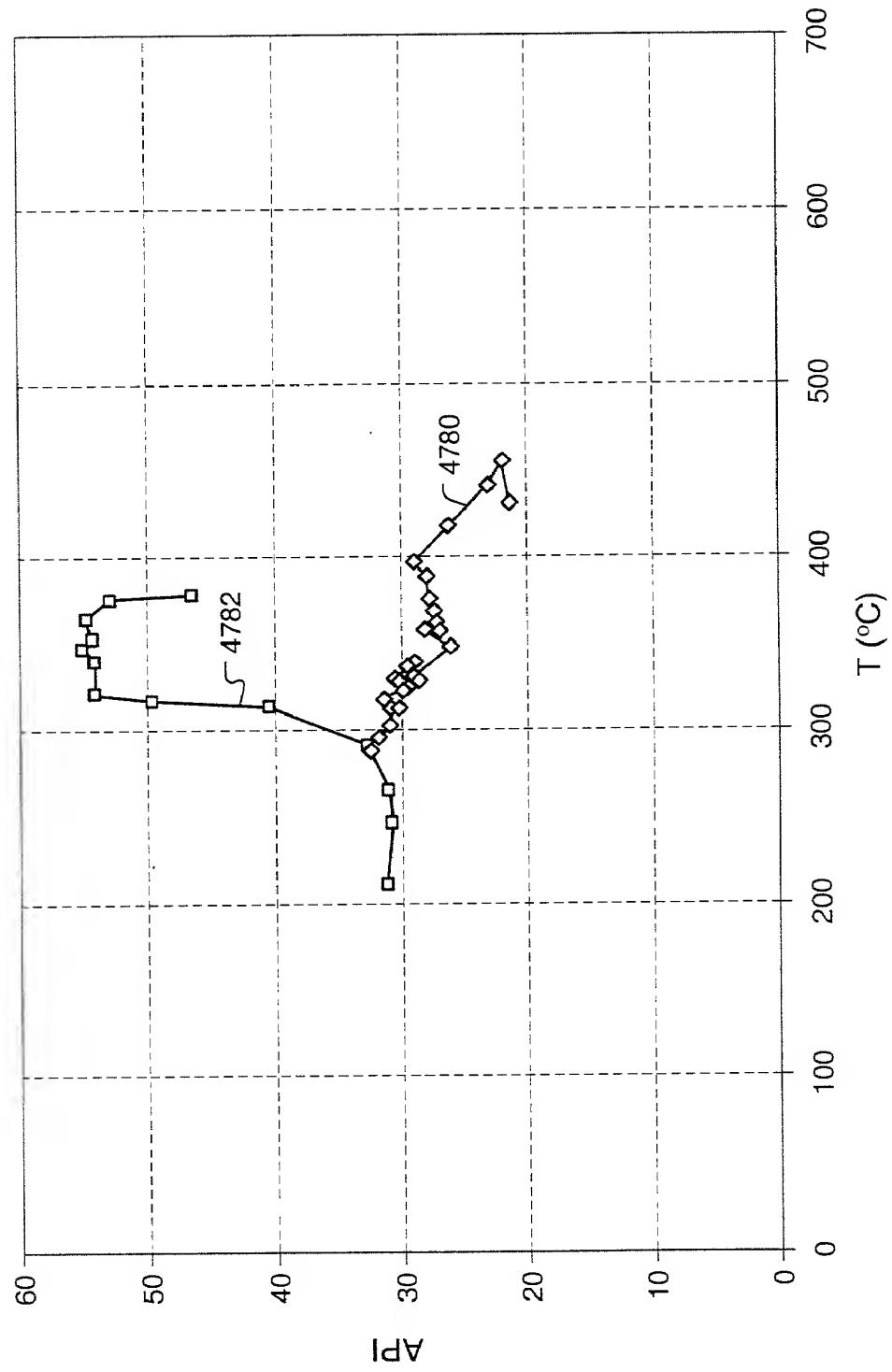


FIG. 175

Days From Start of Heat Injection

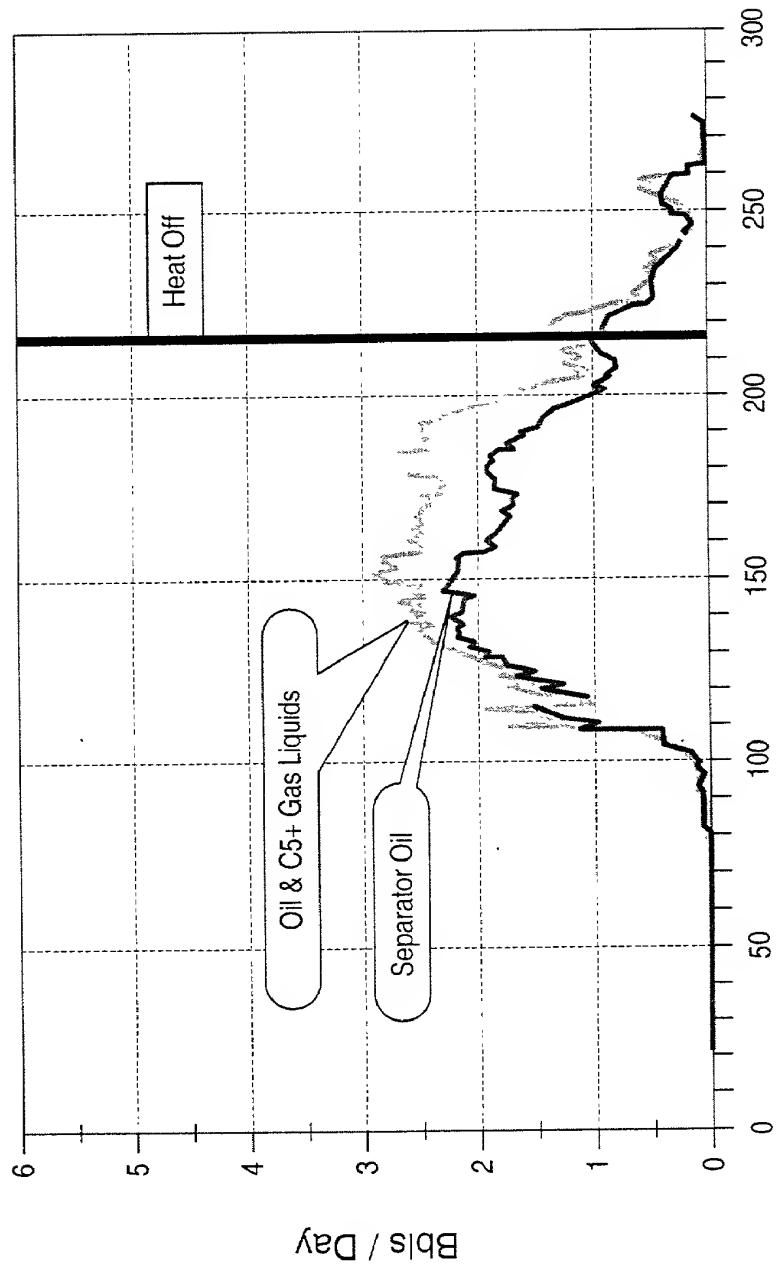
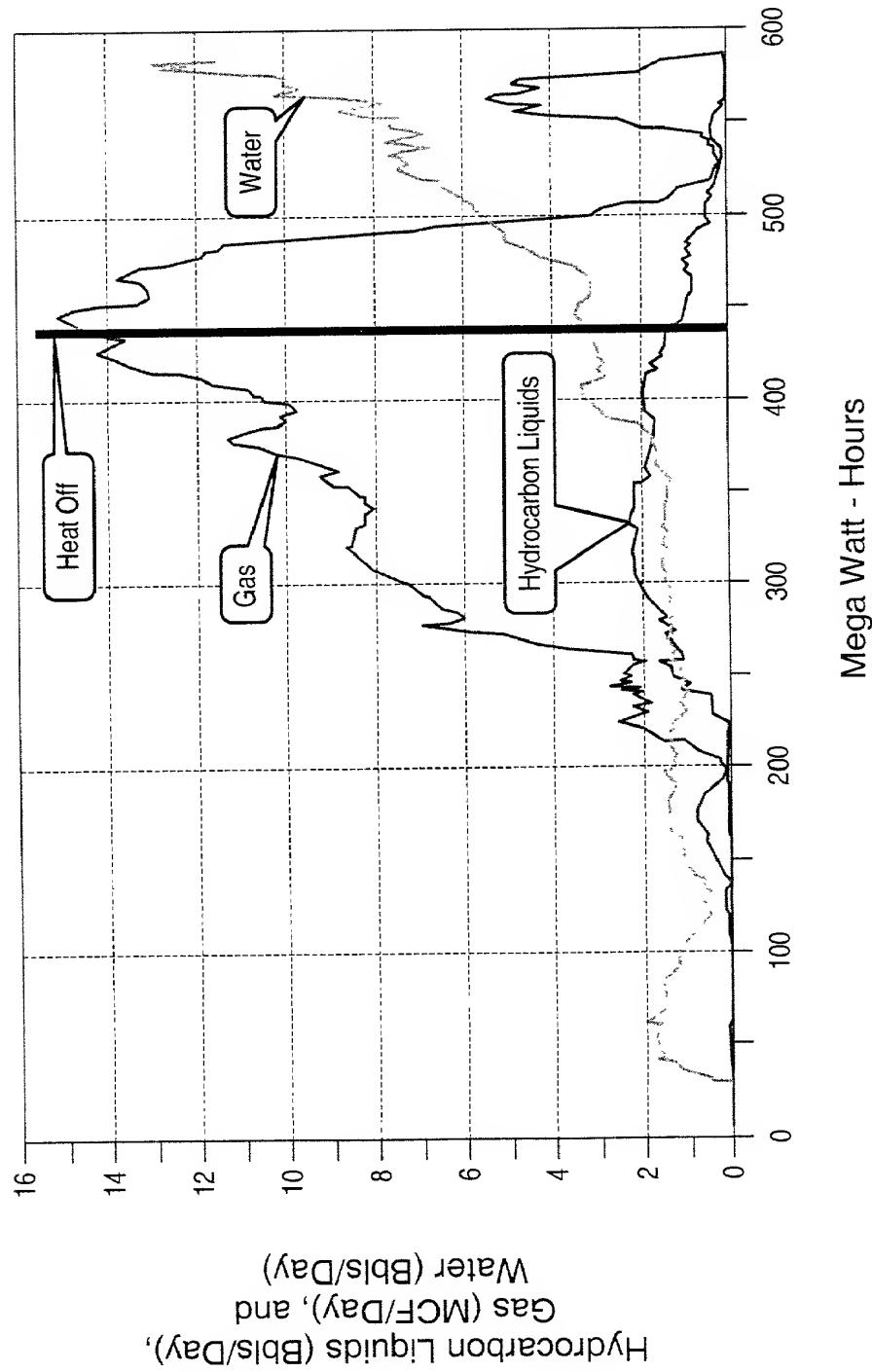


FIG. 176



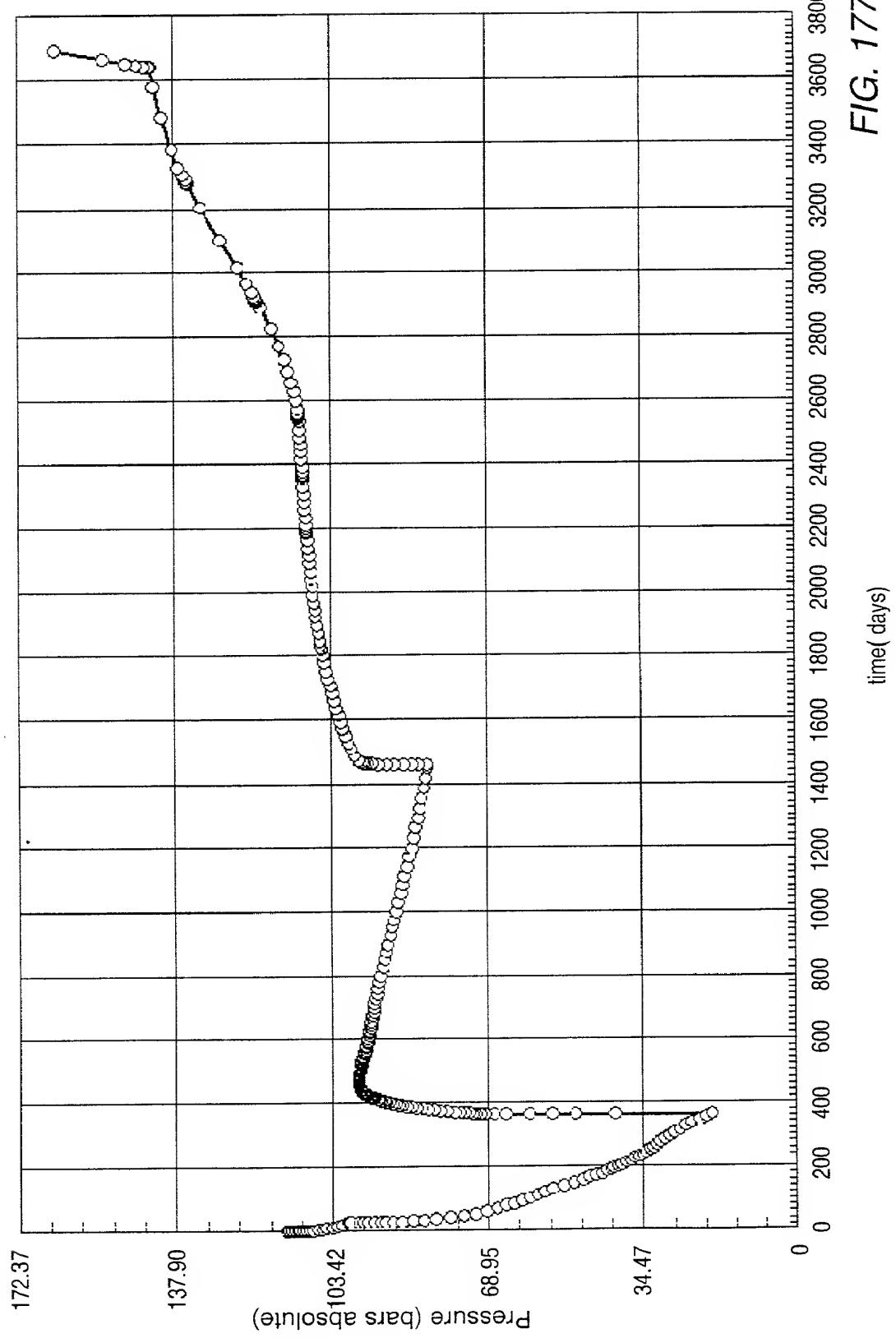


FIG. 177

time( days)

FIG. 178

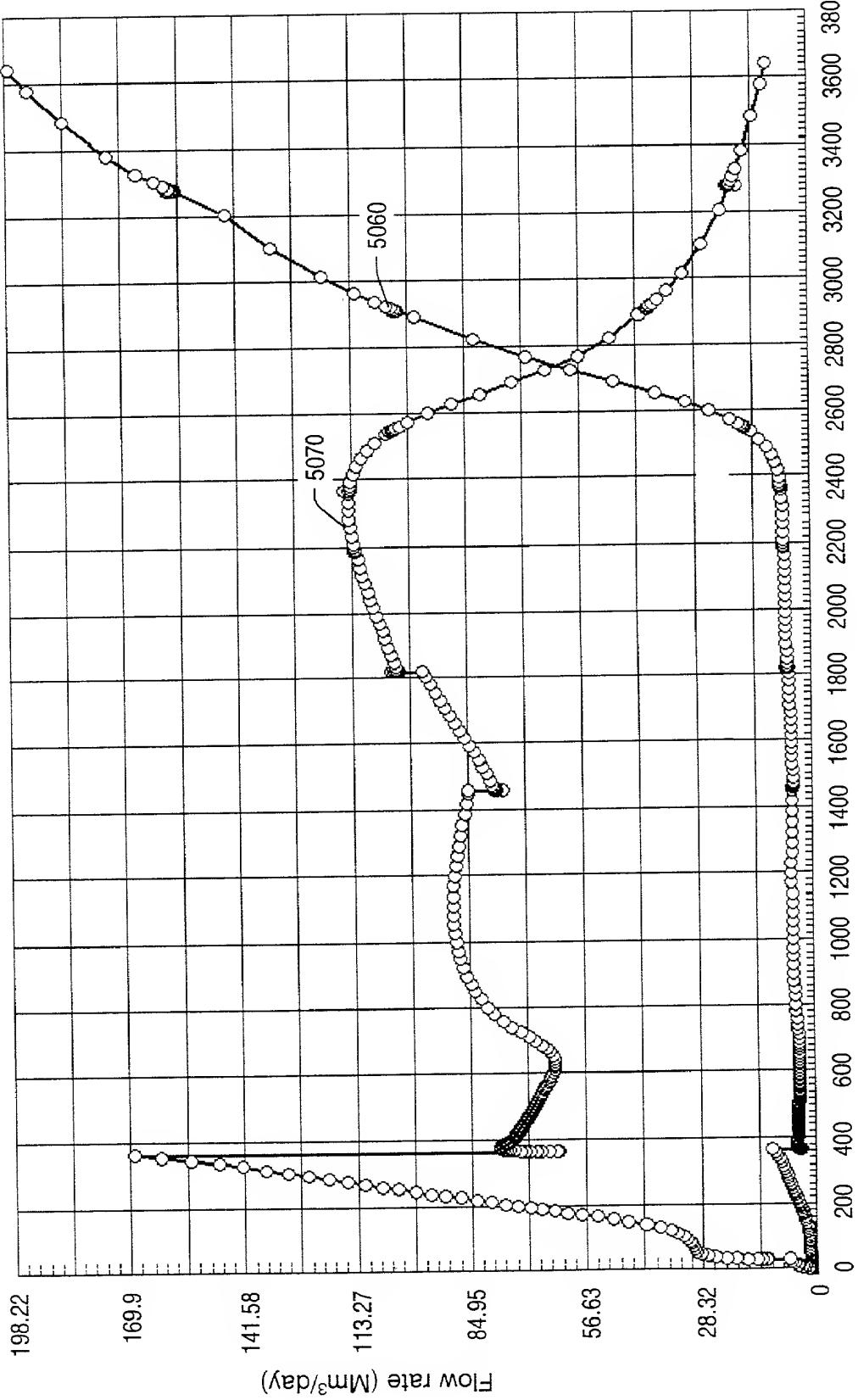
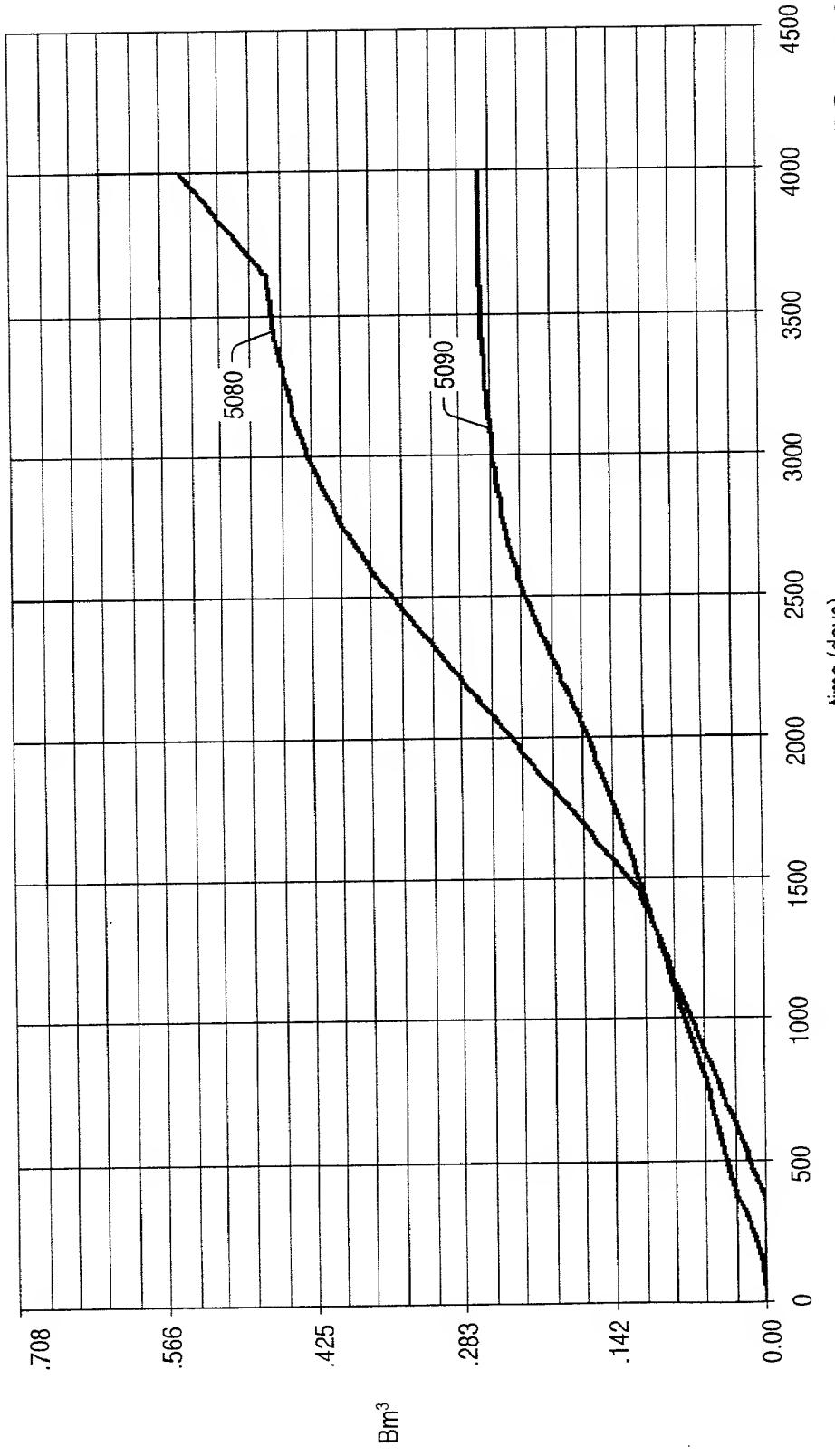


FIG. 179



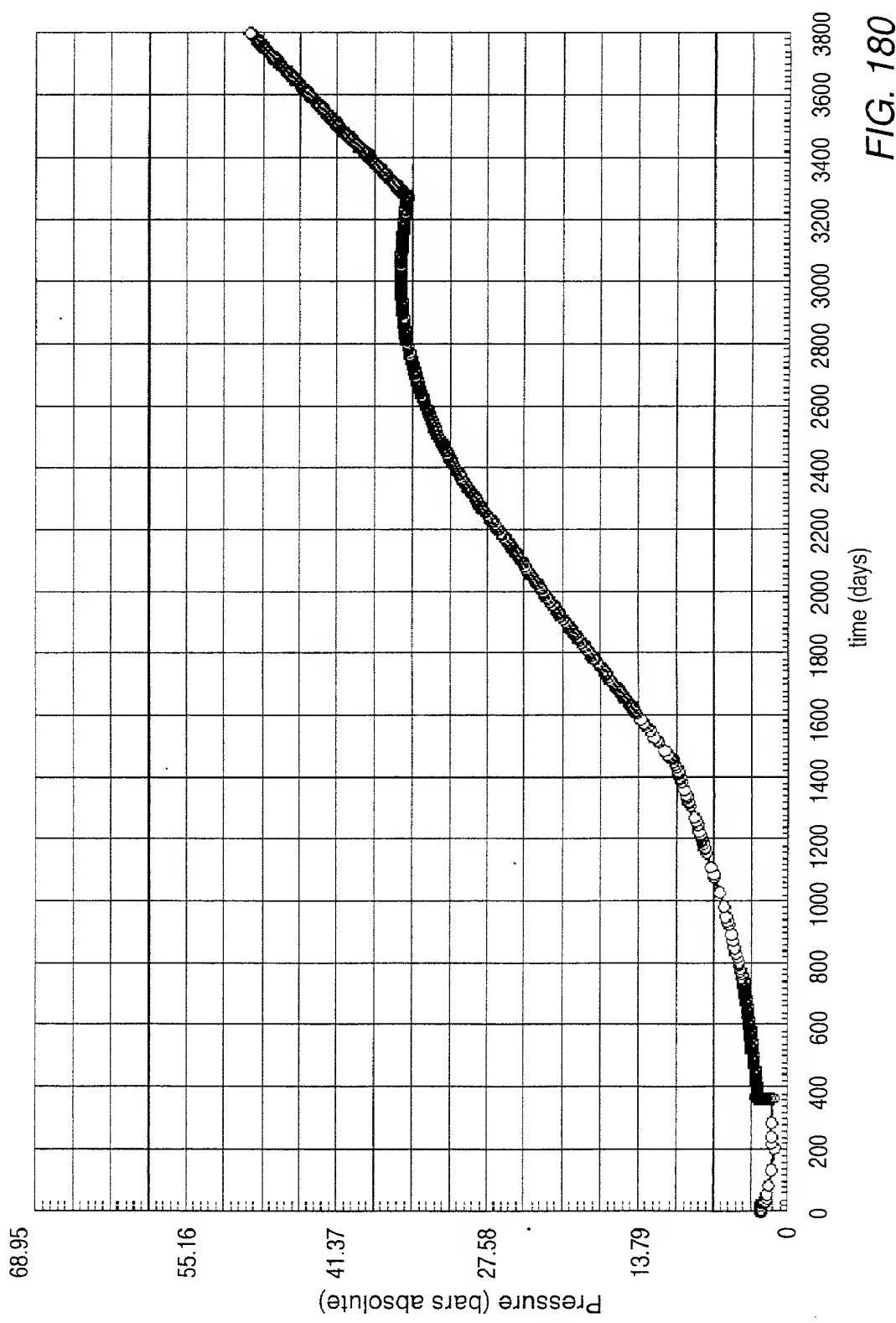


FIG. 180

FIG. 181

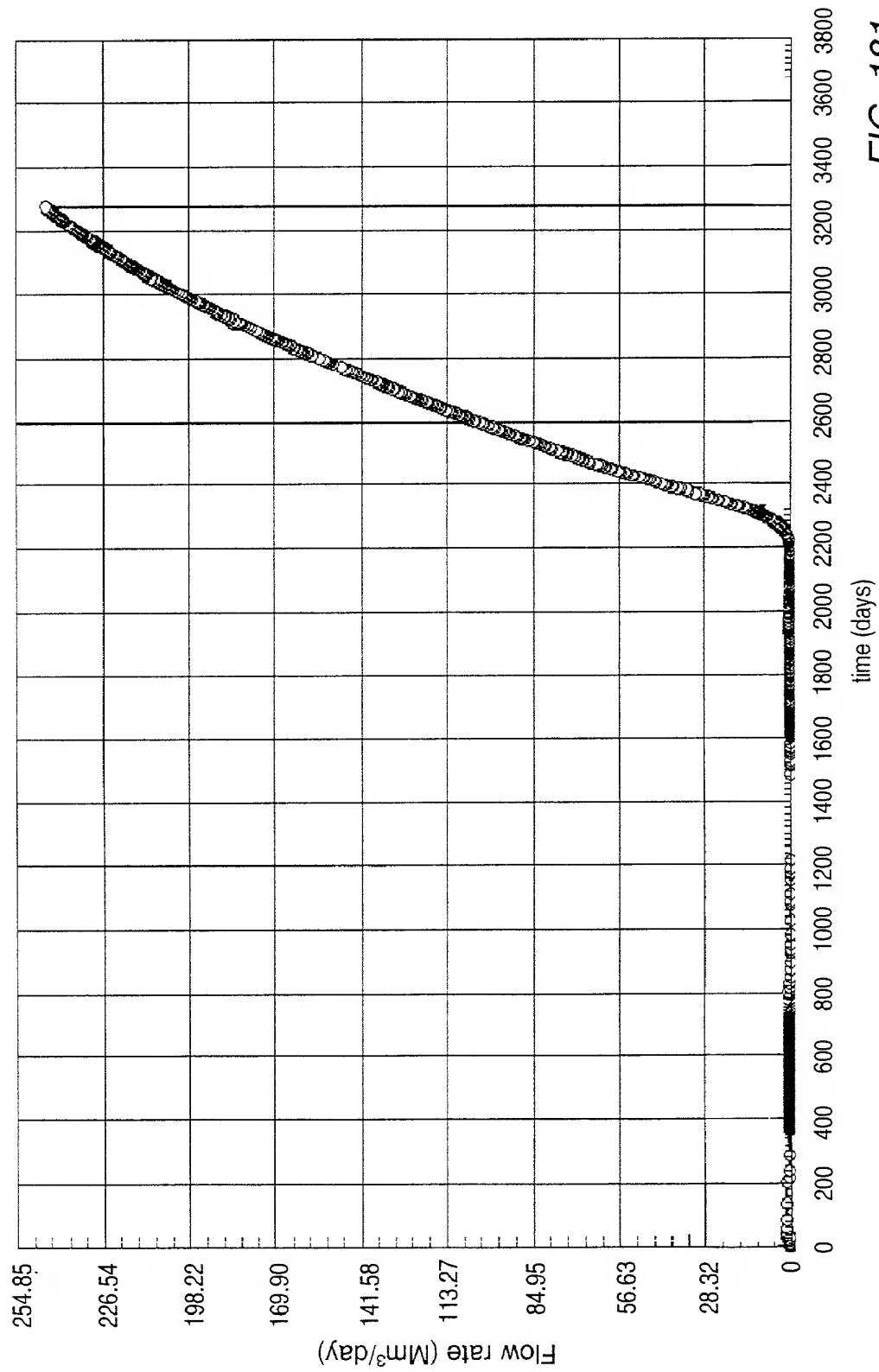


FIG. 182

